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IN TWENTY THREE VOLUMES.

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ENCYCLOPÆDIA PERTHENSIS.

(1.) * PARALLEL. *adj.* [παραλληλος; *parallele*, Fr.] 1. Extended in the same direction, and preserving always the same distance.—Distorting the order and theory of causes, he draws them aside unto things whereto they run *parallel*, and their proper motions would never meet together. *Brown.* 2. Having the same tendency.—When honour runs *parallel* with the laws of God and our country, it cannot be too much cherished. *Addison.* 3. Continuing the resemblance through many particulars; equal; like.—The foundation principle of peripateticism is exactly *parallel* to an acknowledged nothing. *Glanville.*—I shall observe something *parallel* to the wooing and wedding suit in the behaviour of persons of figure. *Addison.*—In the *parallel* place before quoted. *Locke.*—Compare the words and phrases in one place of an author, with the same in other places of the same author, which are generally called *parallel* places. *Watts.*

(2.) * PARALLEL. *n. s* from the adjective.] 1. Line continuing its course, and still remaining at the same distance from another line.—

Who made the spider *parallels* design,
Sure as De Moivre, without rule or line? *Pope.*

2. Line on the globe marking the latitude. 3. Direction conformable to that of another line.—

—Lines, that from their *parallel* decline,
More they proceed, the more they still disjoin. *Garth.*

4. Resemblance; conformity continued through many particulars; likeness.—

She lights her torch at their's to tell,
And shew the world this *parallel*. *Denham.*
'Twixt earthly females and the moon,
All *parallels* exactly run. *Swift.*

5. Comparison made.—The *parallel* holds in the gainfulness, as well as laboriousness of the work. *Decay of Piety.*—Comparing and drawing a *parallel* between his own private character, and that of other persons. *Addison.* 6. Any thing resembling another.—Thou ungrateful brute, if thou wouldst find thy *parallel*, go to hell. *South.*—

None but thyself can be thy *parallel*. *Pope.*

(3.) PARALLEL, in geometry. See GEOMETRY.

(4.) PARALLEL SAILING. See NAVIGATION, *Part* II. *Sect.* II.; § 84—102.

(5.) PARALLEL SPHERE, that situation of the sphere wherein the equator coincides with the horizon, and the poles with the zenith and nadir.

(6.) PARALLELS OF ALTITUDE, or ALMUCANTARS, are circles parallel to the horizon, imagined to pass through every degree and minute of the meridian between the horizon and zenith, having their poles in the zenith.

(7.) PARALLELS OF DECLINATION, in astronomy, are the same with parallels of latitude in geography.

(8.) PARALLELS OF LATITUDE, in astronomy, are lesser circles of the sphere parallel to the ecliptic, imagined to pass through every degree and minute of the colures.

* *To* PARALLEL. *v. a.* [from the noun.] 1. To place, so as always to keep the same direction with another line.—The Azores having a middle situation between these continents and that vast tract of America, the needle seemeth equally distracted by both, and diverting unto neither, doth *parallel* and place itself upon the true meridian. *Brown.* 2. To keep in the same direction; to level.—The loyal sufferers abroad became subjected to the worst effect of banishment, and even there expelled; so *paralleling* in their exigencies the most immediate objects of that monster's fury. *Fell.*—

His life is *parallel'd*
Ev'n with the stroke and line of his great justice. *Shake.*

3. To correspond to.—That he stretched out the north over the empty places, seems to *pa-*

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the expreſſion of David, he ſtretched out the earth upon the waters. *Burnet.* 4. To be equal to; to reſemble through many particulars.—In the fire, the deſtruction was ſo ſwift, ſudden, vaſt and miſerable, as nothing can *parallel* in ſtory. *Dryden.* 5. To compare.—I *parallel'd* more than once, our idea of ſubſtance, with the Indian philoſopher's he-knew-not-what, which ſupported the tortoiſe. *Locke.*

* PARALLELISM. *n. ſ.* [*parallelijme*, Fr. from *parallel.*] State of being parallel.—The *parallelijm* and due proportionated inclination of the axis of the earth. *More.*—Speaking of the *parallelijm* of the axis of the earth, I demand, whether it be better to have the axis of the earth ſteady, and perpetually *parallel* to itſelf, or to have it careleſsly tumble this way and that way. *Ray on the Creation.*

* PARALLELOGRAM. *n. ſ.* [παραλληλος and γραμμα; *parallelograme*, Fr.] In geometry, a right lined quadrilateral figure, whoſe oppoſite ſides are parallel and equal. *Harris.*—The experiment we made in a loadſtone of a *parallelogram*, or long figure, wherein only inverting the extremes, as it came out of the fire, we altered the poles. *Brown.*—We may have a clear idea of the area of a *parallelogram*, without knowing what relation it bears to the area of a triangle. *Watts's Logick.*

* PARALLELOGRAMICAL. *adj.* [from *parallelogram.*] Having the properties of a parallelogram.

* PARALLELOPIPED. *n. ſ.* [from *parallelopipede*, Fr.] A ſolid figure contained under ſix parallelograms, the oppoſites of which are equal and parallel; or it is a priſm, whoſe baſe is a parallelogram: it is always triple to a pyramid of the ſame baſe and height. *Harris.*—Two priſms alike in ſhape I tied ſo, that their axes and oppoſite ſides being parallel, they compoſed a *parallelopiped. Newton's Opticks.*—Cryſtals that hold lead are yellowiſh, and of a cubic or *parallelopiped* figure. *Woodward.*

PARALLELOPIPEDIA, in the old mineralogy, a genus of ſpars, externally of a determinate and regular figure, always found looſe, detached, and ſeparate from all other bodies, and in form of an oblique parallelopiped, with 6 parallelogram ſides and 8 ſolid angles; eaſily fiſſile either in an horizontal or perpendicular direction; being compoſed of numbers of thin plates, and thoſe very elegantly and regularly arranged bodies, each of the ſame form with the whole maſs, except that they are thinner in proportion to their horizontal planes, and naturally fall into theſe and no other figures, on being broken with a ſlight blow.

(1.) * PARALOGISM. *n. ſ.* [παραλογισμος; *paralogiſme*, Fr.] A falſe argument.—That becauſe they have not a bladder of gall, like thoſe we obſerve in others, they have no gall at all, is a *paralogiſm* not admittible. *Bacon.*—Modern writers, making the drachma leſs than the denarius, others equal, have been deceived by a double *paralogiſm. Arbuthnot.*—If a ſyllogiſm agree with the rules given for the conſtruction of it, it is called a true argument: if it diſagree with theſe rules, it is a *paralogiſm*, or falſe argument. *Watts.*

(2.) PARALOGISM, in logic, alſo implies a conſequence drawn from principles that are falſe; or, though true, are not proved; or when a propoſition is paſſed over that ſhould have been proved.

To PARALOGIZE, *v. n.* To argue ſophiſtically. *Aſh.*

* PARALOGY. *n. ſ.* Falſe reaſoning.—That Methuſelah was the longeſt liver of all the poſterity of Adam, we quietly believe; but that he muſt needs be ſo, is perhaps below *paralogy* to deny. *Brown.*

(1.) * PARALYSIS. [παραλυσις; *paralyſie*, Fr.] A palſy.

(2.) PARALYSIS. See MEDICINE, *Index.*

* PARALYTICAL. } *adj.* [from *paralyſis*; *pa-*
* PARALYTICK. } *ralytique*, Fr.] Palſied; inclined to palſy.—

Nought ſhall it profit, that the charming fair,
Angelic, ſofteſt work of heav'n, draws near
To the cold ſhaking *paralytick* hand,
Senſeleſs of beauty. *Prior.*

—If a nerve be cut, or ſtreightly bound, that goes to any muſcle, that muſcle ſhall immediately loſe its motion: which is the caſe of *paralyticks. Derham.*—The difficulties of breathing and ſwallowing, without any tumour, after long diſeaſes, proceed commonly from a reſolution or *paralytical* diſpoſition of the parts. *Arbuthnot.*

PARAMABIRO, } or PARAMAIRAMBA, the
PARAMARIBO, } capital of SURINAM, is ſeated on the W. bank of the Surinam, about 18 miles from the ſea coaſt, and has a good harbour, with 2 churches, 2 Jewiſh ſynagogues, and about 1400 houſes. The ſtreets are ſtraight, and ornamented on each ſide with orange, lemon and tamarind trees. It is the rendezvous of all the European traders.

PARAMATTY, a town of Indoſtan, in the Carnatic, about 10 miles W. of Coveriporum.

PARAMECIA, in natural hiſtory, a name given to ſuch animalcules as have no viſible limbs or tails, and are of an irregularly oblong figure.

(1.) * PARAMETER. *n. ſ.* The latus rectum of a parabola, is a third proportional to the abſciſſa and any ordinate; ſo that the ſquare of the ordinate is always equal to the rectangle under the *parameter* and abſciſſa: but, in the ellipſis and hyperbola, it has a different proportion. *Harris.*

(2.) PARAMETER. See CONIC SECTIONS, *Index.*

PARAMO, Lewis De, a Spaniſh inquiſitor, who publiſhed at Madrid, in 1598, a curious work upon the tribunal called *The Holy Office.* He writes with candor, omits no fact, but enumerates impartially all the victims of the bloody Inquiſition.

(1.) * PARAMOUNT. *adj.* [*per* and *mount.*] 1. Superiour; having the higheſt juriſdiction: as lord *paramount*, the chief of the ſeigniory: with *to.*—Leagues within the ſtate are ever pernicious to monarchies; for they raiſe an obligation, *paramount to* obligation of ſovereignty. *Bacon.*—The dogmatiſt's opinioned aſſurance is *paramount to* argument. *Glanville.*—If all power be derived from

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from Adam, by divine inſtitution, this is a right antecedent and *paramount to* all government. *Locke.*—Mankind, ſeeing the apoſtles poſſeſſed of a power plainly *paramount to* the powers of all the known beings, whether angels or dæmons, could not queſtion their being inſpired by God. *Hoſt.* 2. Eminent; of the higheſt order.—John a Chamber was hanged upon a gibbet raiſed a ſtage higher in the midſt of a ſquare gallows, as a traitor *paramount*. *Bacon.*

(1.) * PARAMOUNT. *n. ſ.* The chief.—

In order came the grand infernal peers,
'Midſt came their mighty *paramount*. *Milton.*

(3.) PARAMOUNT, in Engliſh law, the "higheſt lord of the fee, of lands, of tenements, and hereditaments." As there may be a lord meſne where lands are held of an inferior lord, who holds them of a ſuperior under certain ſervices; ſo this ſuperior lord is lord *paramount*. Alſo the king is the chief lord, or lord *paramount* of all the lands in the kingdom. *Cok. Lit.* 1.

* PARAMOUR. *n. ſ.* [*par* and *amour*, Fr.] 1. A lover or wooer.—

A lovely bevy of fair ladies ſat,
Courted of many a jolly *paramour*,
The which them did in modeſtwiſe amate.
Spenſer.

No ſeaſon then for her
To wanton with the ſun her luſty *paramour*.
Milton.

2. A miſtreſs. It is obſolete in both ſenſes, tho' not inelegant or unmuſical.—

Shall I believe
That unſubſtantial death is amorous,
And that the lean abhorred monſter keeps
Thee here in dark to be his *paramour*? *Shak.*

(1.) PARANA, a large river of Brazil, which riſes in about Lat. 18° S. runs a long courſe, and joins the *Paraguay*, in Lat. 28° S. See PARAGUAY, N° 3.

(2.) PARANA, a province of Brazil, in Paraguay, ſo named from the above river. See PARAGUAY, N° 1. St Anne is the capital.

PARANTES, a town of France, in the department of the Landes; 33 miles N. of Tartas.

(1.) * PARANYMPH. *n. ſ.* [παρα and νυμφη; *paranymphe*, Fr.] 1. A brideman; one who leads the bride to her marriage.—

The Timnian bride
Had not ſo ſoon prefer'd
Thy *paranymph*. *Milton.*

2. One who countenances or ſupports another.—Sin hath got a *paranymph* and a ſolicitor, a warrant and an advocate. *Taylor.*

(2.) PARANYMPH, among the ancients, the perſon who waited on the bridegroom, and directed the nuptial ſolemnities; called alſo *pronubus* and *auſpex*, becauſe the ceremonies began by taking auſpicia. As the paranymph officiated only on the part of the bridegroom, a woman called PRONUBA officiated on the part of the bride.

* PARAPEGM. *n. ſ.* [παραπηγμα, παραπηγνυμι.] A brazen table fixed to a pilar, on which laws and proclamations were anciently engraved: alſo a table ſet up publickly, containing an account of the riſing and ſetting of ſtars, eclipſes of the ſun and moon, the ſeaſons of the year, &c. whence aſtrologers give this name to the tables, on which they draw figures according to their art. *Philips.*—Our forefathers, obſerving the courſe of the the ſun, and marking certain mutations to happen in his progreſs through the zodiac, ſet them down in their *parapegms*, or aſtronomical canons. *Brown.*

(1.) * PARAPET. *n. ſ.* [*parapet*, Fr. *parapetto*, Italian.] A wall breaſt high.—There was a wall or *parapet* of teeth ſet in our mouth to reſtrain the petulancy of our words. *Ben Jonſon.*

(2.) PARAPET, in fortification, an elevation of earth deſigned for covering the ſoldiers from the enemy's cannon or ſmall ſhot. See FORTIFICATION.

PARAPHERNA. See PARAPHERNALIA.

PARAPHERNAL, *adj.* Of or belonging to the PARAPHERNALIA, or the wife's peculiar property.

(1.) * PARAPHERNALIA. *n. ſ.* [Latin, *paraphernaux*, Fr.] Goods in the wife's diſpoſal.

(2.) PARAPHERNALIA, in the civil law. See LAW, *Part* III, *Chap.* I, *Sect.* V, § 9.

(1.) * PARAPHIMOSIS. *n. ſ.* [παραφιμωσις; *paraphimoſe*, Fr.] A diſeaſe when the præputium cannot be drawn over the glans.

(2.) PARAPHIMOSIS. See PARAPHYMOSIS.

PARAPHONIA. See MEDICINE, *Index.*

(1.) * PARAPHRASE. *n. ſ.* [παραφρασις; *paraphraſe*, Fr.] A looſe interpretation; an explanation in many words.—All the laws of nations were but a *paraphraſe* upon this ſtanding rectitude of nature. *South.*—In *paraphraſe*, or tranſlation with latitude, the author's words are not ſo ſtrictly followed as his ſenſe. *Dryden.*

(2.) *A* PARAPHRASE is an explanation of ſome paſſage in clearer and more ample terms.

* *To* PARAPHRASE. *v. a.* [*paraphraſer*, Fr. παραφραζω,] To interpret with laxity of expreſſion; to tranſlate looſely.—We are put to conſtrue and *paraphraſe* our own words. *Stilling fleet.*—

What needs he *paraphraſe* on what we mean?
We were at worſt but wanton; he's obſcene.
Dryden.

—Where tranſlation is impracticable, they may *paraphraſe*.—But it is intolerable, that, under a pretence of *paraphraſing* and tranſlating, a way ſhould be ſuffered of treating authors to a manifeſt diſadvantage. *Felton.*

* PARAPHRAST. *n. ſ.* [*paraphraſte*, French; παραφραστης.] A lax interpreter; one who explains in many words.—The fitteſt for publick audience are ſuch, as following a middle courſe between the rigor of literal tranſlators and the liberty of *paraphraſts*, do, with great ſhortneſs and plainneſs deliver the meaning. *Hooker.*—The Chaldean *paraphraſt* renders Gerah by Meath. *Arbuthnot.*

* PARAPHRASTICAL. } *adj.* [from *para-*
* PARAPHRASTICK. } *phraſe.*] Lax in interpretation; not literal; not verbal.

(1.) * PARAPHRENITIS. *n. ſ.* [παρα and φρενιτις; *paraphreneſie*, French.]—*Paraphrenitis* is an inflammation of the diaphragm. The ſymptoms are a violent fever, a moſt exquiſite pain increaſed upon inſpiration, by which it is diſtinguiſhed from a pleuriſy, in which the greateſt pain is in expiration. *Arbuthnot.*

(2.) PARAPHRENITIS. See DIAPHRAGM, and MEDICINE, *Index.*

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PARAPHROSYNE, a word uſed by medical writers to denote a delirium, or an alienation of mind in fevers, or from whatever other cauſe.

PARAPHYMOSIS, a diſorder of the penis, wherein the prepuce is ſhrunk, and withdrawn behind the glans, ſo as not to be capable of being brought to cover the ſame; which generally happens in venereal diſorders. See MEDICINE and SURGERY, *Indexes*.

PARAPLEGIA. See MEDICINE, *Index*.

(1.) * PARAQUETO. *n. ſ.* A little parrot.

(2.) PARAQUETO. See PSITTACUS.

PARARA, *n. ſ.* an Anglo-American word, uſed in the Northern United States, for what is called in the Southern States, a SAVANNAH, *i. e.* an extenſive rich plain, without trees, but covered with graſs. Some of theſe are 40 miles broad, and ſeveral hundred miles long; and exhibit fine proſpects.

(1.) * PARASANG. *n. ſ.* [*paraſanga*.] A Perſian meaſure of length.—Since the mind is not able to frame the idea of any ſpace without parts, inſtead thereof it makes uſe of the common meaſures, which, by familiar uſe, in each country, have imprinted themſelves on the memory; as inches and feet, or cubits and *paraſangs*. *Locke*.

(2.) *The* PARASANG is an ancient meaſure, differing at different times, and in different places; being uſually 30, ſometimes 40, and ſometimes 50 ſtadia, or furlongs.—The word, according to Littleton, has its riſe from *paraſch angarius*, *q. d.* the ſpace a poſt-man rides from one ſtation, *angaria*, to another.

PARASAOLI, a town of Indoſtan, in Jyenagur; 15 miles NNE. of Jyepour, and 85 W. of Agra.

PARASCENIUM, in the Grecian and Roman theatres, was a place behind the ſcenes whither the actors withdrew to dreſs and undreſs themſelves. The Romans more frequently called it POSTSCENIUM. See THEATRE.

PARASELENE, in natural philoſophy, a mock moon; a meteor or phenomenon encompaſſing or adjacent to the moon, in form of a luminous ring; wherein are obſerved ſometimes one and ſometimes two or more images of the moon.

PARASEMON, [παρασημον,] among the Greeks, was the figure carved on the prow of the ſhips to diſtinguiſh them from each other. This figure was generally that of a bull, lion, or other animal; ſometimes the repreſentation of a mountain, tree, flower, &c.

PARASIA, a country lying E. of Media.

(1.) * PARASITE. *n. ſ.* [*paraſite*, Fr. *paraſita*, Latin.] One that frequents rich tables, and earns his welcome by flattery.—

He is a flatterer,
A *paraſite*, a keeper back of death. *Shak.*

Moſt ſmiling, ſmooth, deteſted *paraſites*,
Courteous deſtroyers, affable wolves. *Shak.*

—Diogenes, when mice came about him, as he was eating, ſaid, I ſee, that even Diogenes nourſheth *paraſites*. *Bacon*.—

Thou, with trembling fear,
Or like a fawning *paraſite*, obey'd. *Milton.*

The people ſweat not for their king's delight,
T' enrich a pimp, or raiſe a *paraſite*. *Dryden.*

(2.) PARASITE, among the ancient Greeks, was originally a very reputable title; the paraſites being a kind of prieſts, at leaſt miniſters, of the gods, in the ſame manner as the epulones were at Rome. They took care of the ſacred corn, or the corn deſtined for the ſervice of the temples and the gods, viz. ſacrifices, feaſts, &c. They had even the intendance over ſacrifices; and took care that they were duly performed. At Athens there was a kind of college of 12 paraſites; each people of Attica furniſhing one, who was always choſen out of the beſt families. Polybius adds, that a paraſite was alſo an honourable title among the ancient Gauls, and was given to their poets. But of late it has been uſed as a term of reproach.

(3.) PARASITES, or PARASITICAL PLANTS, in botany, ſuch plants as are produced out of the trunk or branches of other plants, from whence they receive their nouriſhment, and will not grow on the ground. Such are the miſſetoe, &c.

* PARASITICAL. } *adj.* [*paraſitique*, French;
* PARASITICK. } from *paraſite*.] Flattering; wheedling.—The biſhop received ſmall thanks for his *paraſitick* preſentation. *Hakewil*.—Some *paraſitick* preachers have dared to call thoſe martyrs, who died fighting againſt me. *King Charles*.

* PARASOL. *n. ſ.* A ſmall canopy or umbrella carried over the head to ſhelter from rain and the heat of the ſun. *Dict*.

PARASTATÆ, in anatomy. See PROSTATÆ.

* PARASYNEXIS. *n. ſ.* In the civil law, a conventicle or unlawful meeting. *Dict*.

PARATALASSIA. See PRIMORIE.

PARAY, a town of France, in the dept. of the Saone and Loire, near the Bourbince; 6 miles W. of Charolles, and 16½ ESE. of Bourbon Lancy.

* *To* PARBOIL. *v. a.* [*parbouiller*, French.] To half boil; to boil in part.—*Parboil* two large capons upon a ſoft fire. *Bacon*.—

From the ſea into the ſhip we turn,
Like *parboil'd* wretches, on the coals to burn.
Donne.

Like the ſcum, ſtarved men did draw,
From *parboil'd* ſhoes and boots. *Donne.*

* PARBREAK. *n. ſ.* [from the verb.] Vomit. Obſolete.—

Her filthy *parbreak* all the place defiled has.
Spenſer.

* *To* PARBREAK. *v. n.* [*breeker*, Dutch.] To vomit. Obſolete.

PARBUNCLE, *n. ſ.* in a ſhip, a rope almoſt like a pair of ſlings; it is ſeized both ends together, and then put almoſt double about any heavy thing that is to be hoiſted in or out of the ſhip, having the hook of the runner hitched into it, to hoiſt it up by.

PARCÆ, in heathen mythology, goddeſſes who were ſuppoſed to preſide over the accidents and events, and to determine the date or period of human life. The Parcæ were three, CLOTHO, LACHESIS, and ATROPOS. They ſpun the thread of men's lives; Clotho held the diſtaff and drew the thread; Lacheſis twirled the ſpindle, and ſpun it; and Atropos cut it. The ancients repreſent the Parcæ divers ways: Lucian, in the ſhape of three poor old women, having large locks of wool mixed with daffodils on their heads. Others repreſent Clotho in a long robe of divers colours, wearing a crown upon her head adorned with ſe-

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ven ſtars, Lacheſis in a robe beſet with ſtars, and Atropos, clad in black. The ancients imagined that the Parcæ uſed white wool for a long and happy life, and black for a ſhort and unfortunate one. See NECESSITY, § 4.

PARCAS, a town of Turkey, in Walachia.

PARCAY, a town of France, in the dept. of Maine and Loire; 12 miles SE. of Baugé, and 15½ NE. of Saumur.

PARCE', two towns of France: 1. in the dep. of Ille and Vilaine; 4 miles S. of Fougeres: 2. in that of Sarte, 6 miles E. of Sablé, and 18 SW. of Mans.

* PARCEL. *n. ſ.* [*parcelle*, French; *particula*, Lat.] 1. A ſmall bundle. 2. A part of the whole; part taken ſeparately.—

Women, Silvius, had they mark'd him
In parcels, as I did, would have gone near
To fall in love with him. *Shak.*

I drew from her a prayer of earneſt heart,
That I would all my pilgrimage relate;
Whereof by *parcels* ſhe had ſomething heard,
But not diſtinctively. *Shak.*

An inventory thus importing,
The ſeveral *parcels* of his plate. *Shak.*

—With what face could ſuch a great man have begged ſuch a *parcel* of the crown lands? *Davenant.*—I have known penſions given to particular perſons, any one of which, if divided into ſmaller *parcels*, and diſtributed to thoſe who diſtinguiſh themſelves by wit or learning, would anſwer the end. *Swift.*—The ſame experiment ſucceeds on two *parcels* of the white of an egg. *Arbuthnot.*—3. A quantity or maſs.—What can be rationally conceived in ſo tranſparent a ſubſtance as water for the production of theſe colours, beſides the various ſizes of its fluid and globular *parcels*. *Newton.* 4. A number of perſons: in contempt.—

This youthful *parcel*
Of noble batch'lors ſtand at my beſtowing. *Shak.*

5. Any number or quantity: in contempt.—Unleſs they could, by a *parcel* of fair words and pretences, engage them into a confederacy, there was no good to be done. *L'Eſtrange.*

* *To* PARCEL. *v. a.* [from the noun.] 1. To divide into portions.—If they allot and *parcel* out ſeveral perfections to ſeveral deities, do they not, by this, aſſert contradictions, making deity only to ſuch a meaſure perfect? *South.*—

Thoſe ghoſtly kings would *parcel* out my pow'r,
And all the fatneſs of my land devour. *Dryden.*

2. To make up into a maſs.—What a wounding ſhame, that mine own ſervant ſhould *parcel* the ſum of my diſgraces by addition of his envy! *Shak.*

PARCELLES, John, } two eminent Flemiſh
PARCELLES, Julius, } painters of the 17th century, father and ſon, who excelled in painting ſea pieces.

(1.) * PARCENER. *n. ſ.* [In common law.] When one dies poſſeſſed of an eſtate, and having no heirs but only daughters, or his ſiſters be his heirs; ſo that the lands deſcend to thoſe daughters or ſiſters: theſe are called *parceners*, and are but as one heir. *Diſt.*

(2.) PARCENER. See COPARCENER.

* PARCENERY. *n. ſ.* [from *parſonier*, Fr.] A holding or occupying of land by more perſons pro indiviſo, or by joint tenants, otherwiſe called coparceners. *Cowel.*

(1.) * *To* PARCH. *v. a.* [from πιρκαινω, ſays Junius; from *percoquo*, ſays *Skinner*; neither of them ſeem ſatisfied with their conjecture: perhaps from *peruſtus*, burnt, to *peruſt*, to *parch*; perhaps from *parchment*, the effect of fire upon parchment being almoſt proverbial.] To burn ſlightly and ſuperficially; to ſcorch; to dry up.—

Hath thy fiery heart ſo *parcht* thine entrails,
That not a tear can fall? *Shak.*

Did he ſo often lodge in open field
In winter's cold, and ſummer's *parching* heat,
To conquer France? *Shak.*

Torrid heat,
And vapours as the Libyan air aduſt,
Began to *parch* that temp'rate clime. *Milton.*

I'm ſtupify'd with ſorrow, paſt relief
Of tears; *parch'd* up and wither'd with my grief. *Dryden.*

—Without this circular motion of our earth, one hemiſphere would be condemned to perpetual cold and darkneſs, the other continually roaſted and *parched* by the ſun-beams. *Ray.*—

The ground below is *parch'd*, the heav'ns above us fry. *Dryden.*

Full fifty years
I have endur'd the biting winter's blaſt,
And the ſeverer heats of *parching* ſummer. *Rowe.*

—The ſkin grows *parched* and dry. *Blackmore.*—A man diſtreſſed with thirſt in the *parched* places of the wilderneſs, ſearches every pit, but finds no water. *Rogers.*

(2.) * *To* PARCH. *v. n.* To be ſcorched.—

We were better *parch* in Africk ſun,
Than in the pride and ſalt ſcorn of his eyes. *Shak.*

—Many corns will dry and *parch* into barley. *Mortimer.*

PARCHIM, a town of Mecklenburg, on the Elda, which divides it into the New and Old towns, each of which has a church. It has ſuffered ſeveral times by fire. The population is about 3000. It is 20 miles SE. of Schwerin, and 55 E. of Lauenburg. Lon. 12. 0. E. Lat. 53. 34. N.

(1.) * PARCHMENT. *n. ſ.* [*parchemin*, Fr. *pergamena*, Lat.] Skins dreſſed for the writer. Among traders, the ſkins of ſheep are called parchment, thoſe of calves vellum.—Is not this a lamentable thing, that the ſkin of an innocent lamb ſhould be made *parchment*; that *parchment*, being ſcribbled o'er, ſhould undo a man? *Shak.*—In the coffin, that had the books, they were found as freſh as if newly written in *parchment*. *Bacon.*—

We ſhrink like *parchment* in conſuming flame. *Dryden.*

(2.) PARCHMENT, the ſkins of ſheep or goats prepared after ſuch a manner as to render it proper for writing upon, covering books, &c. The word comes from the Latin PERGAMENA, the ancient name of this manufacture; which is ſaid to have been taken from the city PERGAMOS, to Eumenes, the king of which, its invention is uſually aſcribed; though, in reality, that prince appears rather to have been the improver than the inventor of parchment. For the Perſians of old, according to

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to Diodorus, wrote all their records on ſkins; and the ancient Ionians, as we are told by Herodotus, made uſe of ſheep-ſkins and goat-ſkins in writing, many ages before Eumenes's time. Nor need we doubt that ſuch ſkins were prepared and dreſſed for that purpoſe, after a manner not unlike that of our parchment; though probably not ſo artificially.—The manufacture of parchment is begun by the ſkinner, and finiſhed by the parchment-maker. The ſkin being ſtripped of its wool, and placed in the lime pit, as deſcribed under SHAMMY, the ſkinner ſtretches it on a frame, and pares off the fleſh with an iron inſtrument; this done, it is moiſtened with a rag; and powdered chalk being ſpread over it, the ſkinner takes a large pumice-ſtone, flat at bottom, and rubs over the ſkin, and thus ſcowers off the fleſh; he then goes over it again with the iron inſtrument, moiſtens it as before, and rubs it again with the pumice-ſtone without any chalk underneath: this ſmooths and ſoftens the fleſh-ſide very conſiderably. He then drains it again, by paſſing over it the iron inſtrument as before. The fleſh-ſide being thus drained, by ſcraping off the moiſture, he in the ſame manner paſſes the iron over the wool or hair-ſide; then ſtretches it tight on a frame, and ſcrapes the fleſh-ſide again: this finiſhes its draining; and the more it is drained the whiter it becomes. The ſkinner now throws on more chalk, ſweeping it over with a piece of lamb-ſkin that has the wool on; and this ſmooths it ſtill farther. It is now left to dry, and when dried, taken off the frame by cutting it all round. The ſkin thus far prepared by the ſkinner, is taken out of his hands by the parchment-maker, who firſt, while it is dry, pares it on a *jimmer*, (which is a calf-ſkin ſtretched in a frame), with a ſharper inſtrument than that uſed by the ſkinner; and working with the arm from the top to the bottom of the ſkin, takes away about one half of its thickneſs. The ſkin thus equally pared on the fleſh-ſide, is again rendered ſmooth, by being rubbed with the pumice-ſtone, on a bench covered with a ſack ſtuffed with flocks; which leaves the parchment in a condition fit for writing upon. The parings thus taken off the leather, are uſed in making GLUE, SIZE, &c. See theſe articles. What is called VELLUM is only parchment made of ſkins of abortives, or at moſt ſucking calves. This has a much finer grain, and is whiter and ſmoother than parchment; but is prepared in the ſame manner, except its not being paſſed through the lime-pit.

* PARCHMENT-MAKER. *n. ſ.* [*parchment* and *maker*.] He who dreſſes parchment.

PARCHWITZ, a town of Silefia, in Lignitz; containing two Lutheran churches, a Roman catholic chapel, and a cloth manufactory; 10 miles NE. of Lignitz.

PARCIEUX, Anthony DE, an eminent French mathematician, born at Uzes, in 1703. He was a member of the Academies of Sciences of Paris, Sweden and Berlin; and was appointed Cenſor Royal. He publiſhed a correct and methodical *Treatiſe on Rectilinear and Spherical Trigonometry*. He died in 1769.

PARCOL, or } a lake of Thibet, 25 miles in
PARCOUL, } circumference. Lon. 110. 28. E. Ferro. Lat. 43. 22. N.

PARCOW, a town of Poland, in Lublin.

(1.) * PARD. } *n. ſ.* [*pardus*, *pardalis*, Lat.
(1.) * PARDALE. } The leopard; in poetry any of the ſpotted beaſts.—

The *pardale* ſwift, and the tyger cruel. *Spenſ*
As *pard* to hind, or ſtep-dame to her ſon. *Shak*
A match for *pards* in flight, in grappling fo the bear. *Dryden*

(2.) PARDALE, } in zoology. See FELIS, N
PARDALIS, } XXIII.

PARDHITZ, a town of Bohemia, in Chrudim with a manufacture of ſwords, knives, &c. 5 miles E. of Prague.

PARDIES, Ignatius Gaſton, an ingenious an learned French Jeſuit, born at Paris in 1636. H was profeſſor of rhetoric, and taught polite litera ture for ſeveral years. He alſo wrote ſeveral piece in proſe and verſe, with peculiar delicacy. A length he devoted himſelf entirely to mathematic and natural philoſophy. He died in 1673, of a infectious diſorder contracted by preaching to th priſoners in the Bicetre during the Eaſter holiday His Elements of Geometry are well known. tranſlation of them has gone through ſeveral ed tions. In 1672 he had a diſpute with Sir Iſaa Newton reſpecting his Theory of Light and Co lours. See *Philoſ. Tranſ.* 1672.

PARDO, a town of Spain, in New Caſtile.

(1.) * PARDON. *n. ſ.* [*pardon*, Fr. from th verb.] 1. Forgiveneſs of an offender. 2. Fo giveneſs of a crime.—He that pleaſeth great mer ſhall get *pardon* for iniquity. *Eccluſ.* xx. 27.— ſlight pamphlet, about the elements of architec ture, hath been entertained with ſome *pardon* a mong my friends. *Wotton.*—

But infinite in *pardon* is my judge. *Milto*
What better can we do than proſtrate fall
Before him reverent, and there confeſs
Humbly our faults, and *pardon* beg? *Milto*
Indulgencies, diſpenſes, *pardons*, bulls,
The ſport of winds. *Milto*

3. Remiſſion of penalty. 4. Forgiveneſs receive —A man may be ſafe as to his condition, but, i the mean time, dark and doubtful as to his ap prehenſions: ſecure in his *pardon*, but miſerab in the ignorance of it. *South.* 5. Warrant of fo giveneſs, or exemption from puniſhment.—

The battle done, and they within our powe
Shall never ſee his *pardon*. *Shak. King Lea*

(2.) PARDON, in criminal law, is the remittin an offence committed againſt the king. His pow of pardoning was ſaid by our Saxon anceſto to be derived *à lege ſuæ dignitatis*: and it is d clared in parliament, by ſtat. 27 Hen. VIII. c. 2 that no other perſon hath power to pardon or r mit any treaſon or felonies whatſoever; but th the king hath the whole and ſole power thereof, nited and knit to the imperial crown of this realm In democracies there is no power of pardonin The king may pardon all offences merely again the crown or the public; excepting, 1. That, preſerve the liberty of the ſubject, the committin any man to priſon out of the realm, is by the *habe corpus* act, 31 Car. II. c. 2. made a *præmunire*, u pardonable even to the king. Nor, 2. can the kin pardon, where private juſtice is principally concer ed in the proſecution of offenders: *Non poteſt r gratia*

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gratiam fuerec cum injuria et damno aliorum. Therefore, in appeals of all kinds (which are the ſuit, not of the king, but of the party injured), the proſecutor may releaſe; but the king cannot pardon. Neither can he pardon a common nuiſance, while it remains unredreſſed, or ſo as to prevent an abatement of it; though afterwards he may remit the fine: becauſe though the proſecution is veſted in the king to avoid the multiplicity of ſuits, yet (during its continuance) this offence ſavours more of the nature of a *private* injury to each individual in the neighbourhood, than of a *public* wrong. Neither, laſtly, can the king pardon an offence againſt a popular or penal ſtatute, after information brought; for thereby the informer hath acquired a private property in his part of the penalty. There is alſo a reſtriction of a peculiar nature, that affects the prerogative of pardoning, in caſe of parliamentary impeachments, viz. that the king's pardon cannot be pleaded to any ſuch impeachment, ſo as to impede the inquiry, and ſtop the proſecution of great and notorious offenders. In the reign of Charles II. when the E. of Danby pleaded the king's pardon, the commons voted, "That a pardon is not pleadable in bar of an impeachment." And it was enacted by the act of ſettlement, 12 & 13 W. III. c. 2. "That no pardon under the great ſeal of England ſhall be pleadable to an impeachment by the commons in parliament." But, after the impeachment has been folemnly heard and determined, it is not underſtood that the king's royal grace is farther reſtrained or abridged: for, after the impeachment and attainder of the ſix rebel lords in 1715, three of them were from time to time reprieved by the crown; and at length received the king's moſt gracious pardon. The effect of ſuch pardon by the king, is to make the offender a new man; to acquit him of all corporal penalties and forfeitures annexed to that offence for which he obtains his pardon; and not ſo much to reſtore his former, as to give him new credit and capacity. But nothing can reſtore or purify the blood when once corrupted, if the pardon be not allowed till after attainder, but the high and tranſcendant power of parliament. Yet if a perſon attainted receives the king's pardon, and afterwards hath a ſon, that ſon may be heir to his father; becauſe the father being made a new man, might tranſmit new inheritable blood; though had he been born before the pardon, he could never have inherited at all.

* *To* PARDON. *v. a.* [*pardonner*, Fr.] 1. To excuſe an offender.—

When I beheld you in Cilicia,
An enemy to Rome, I *pardon'd* you. *Dryden.*

2. To forgive a crime.—I will *pardon* all their iniquities. *Jerem.*—

Forgiveneſs to the injur'd does belong,
But they ne'er *pardon* who commit the wrong.
Dryden.

3. To remit a penalty.—

I *pardon* thee thy life before thou aſk it. *Shak.*

4. *Pardon me*, is a word of civil denial, or ſlight apology.—Sir, *pardon me*, it is a letter from my brother. *Shak.*

* PARDONABLE. *adj.* [*pardonable*, Fr. from *pardon.*] Venial; excuſable.—That which we do, being evil, is notwithſtanding by ſo much more *pardonable*, by how much the exigencies of ſo doing, or the difficulty of doing otherwiſe, is greater. *Hooker.*—A blind man ſitting in the chimney corner is *pardonable* enough, but ſitting at the helm, he is intolerable. *South.*—What Engliſh readers, unacquainted with Greek or Latin, will believe me, when we confeſs we derive all that is *pardonable* in us from ancient fountains? *Dryden.*

* PARDONABLENESS. *n. ſ.* [from *pardonable.*] Venialneſs; ſuſceptibility of pardon.—St John's word is, all ſin is tranſgreſſion of the law; St Paul's, the wages of ſin is death: put theſe two together, and this conceit of the natural *pardonableneſs* of ſin vaniſhes away. *Hall.*

* PARDONABLY. *adv.* [from *pardonable.*] Venially; excuſably.—I may judge when I write more or leſs *pardonably*. *Dryden.*

* PARDONER. *n. ſ.* [from *pardon.*] 1. One who forgives another.—

This is his pardon, purchas'd by ſuch ſin,
For which the *pardoner* himſelf is in. *Shak.*

2. One of the fellows that carried about the pope's indulgencies, and ſold them to ſuch as would buy them, againſt whom Luther incenſed the people of Germany. *Cowel.*

PARDOS, or POMPENAY, a town of Africa, in Anta, on the Gold Coaſt.

PARDUS, in zoology. See FELIS, N° XXIV.

(1.) PARE, Ambroſe, an eminent French ſurgeon, of the 16th century, born at Laval in Maine. He was ſurgeon to ſeveral kings of France. Being a proteſtant, he would have been involved in the maſſacre of St Bartholomew's day, had not Charles IX. himſelf ſhut him up in his chamber, ſaying "a man ſo uſeful to all the world ought not to periſh in ſuch a manner." He died at an advanced age, in 1590.

(2.) PARE, or PARÆUS, David, D. D. a celebrated proteſtant divine, born in 1548, at Francolſtein, in Sileſia. He ſtudied at Herminſburg under the learned Chriſtopher Schilling; afterwards at Heidelburg, under Zach. Urſin; was much patronized by Albert Kindler; and Prince Caſimir; was admitted miniſter of Schlettenbach, in 1571; afterwards of Hemſbach, in Worms, where, in 1574, he married the ſiſter of John Stibelius: In 1577, he became miniſter of Ogersheim; and in 1584, profeſſor in the college of Heidelburg. In 1591, he was admitted D. D. and in 1602, ſucceeded Toſſanus as profeſſor of divinity. He publiſhed, 1. the German Bible, with notes, at Neuſtadt, in 1589; 2. a commentary on the Epiſtle to the Romans; 3. ſeveral tracts againſt Bellarmin and the Jeſuits; with other polemical pieces; and died at Pareanum, in 1622.

(3.) PARE, Philip, ſon of the preceding, was born at Hemſbach, in 1576; ſtudied at Neuſtadt, and Heidelburg; became eminent for grammatical erudition; and under the patronage of the elector palatine, viſited the univerſities of Baſil in 1599, and Geneva, in 1600. He became rector of Neuſtadt college in 1612; principal of that of Hanau in 1645; publiſhed his father's life and exegetical works in 1647; ſeveral tracts on grammar; with commentaries on the Scriptures, and other theological works.

(4.) PARE, Daniel, ſon of Philip, was alſo eminent for claſſical learning, and particularly for his ſkill

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ſkill in the Greek, language. He publiſhed many learned pieces; particularly Muſæus's Hero and Leander, with notes; *Melliſicium Atticum*, a ſelection from Greek Authors, &c. He was murdered by robbers in 1645.

* *To* PARE. *v. a.* [This word is reaſonably deduced by *Skinner* from the French phraſe, *parer les ongles*, to dreſs the horſes hoofs when they are ſhaved by the farrier: thus we firſt ſaid, *pare* your nails; and from thence transferred the word to general uſe.] To cut off extremities of the ſurface; to cut away by little and little; to diminiſh. If *pare* be uſed before the thing diminiſhed, it is followed immediately by its accuſative; if it precedes the thing taken away, or agrees in the paſſive voice with the thing taken away, as a nominative, it then requires a particle, as *away*, *off*.—The creed of Athanaſius, and that ſacred hymn of glory, than which nothing doth ſound more heavenly in the ears of faithful men, are now reckoned as ſuperfluities, which we muſt in any caſe *pare away*. *Hooker*.—

I have not alone
Employ'd you where high profits might come home;
But *par'd* my preſent havings to beſtow
My bounties upon you. *Shak. Henry* VIII.

—I am a man, whom fortune hath cruelly ſcratch'd.
—'Tis too late to *pare* her nails now. *Shak.*—

The lion, mov'd with pity, did endure
To have his princely paws all *par'd away*. *Shak.*

—The king began to *pare* a little the privilege of the clergy. *Bacon's Henry* VII.—

He *pares* his apple, that will cleanly feed. *Herbert.*

—Whoever will partake of God's ſecrets, muſt firſt look into his own, he muſt *pare off* whatſoever is amiſs. *Taylor*.—All the mountains were *pared off* the earth. *Burnet*.—The moſt poetical parts, which are deſcriptions and images, were to be *pared away*. *Dryden*.—The ſword, as it was juſtly drawn by us, ſo can it ſcarce ſafely be ſheathed, till the power of the great troubler of our peace be ſo far *pared* and reduced, as that we may be under no apprehenſions. *Atterbury*.—

'Twere well if ſhe would *pare* her nails. *Pope*.

PAREANUM, a village of Germany, near Heidelberg, where Dr Pare reſided and died.

PARECALA, a fertile province of the iſle of Lucon, containing mines rich in gold and precious ſtones; with above 7000 inhabitants.

PARECHIA, a town in the iſle of Paros, built on the ſite of the ancient Paros, and defended by a fort. The European conſuls reſide in it.

PAREDES, 3 towns of Spain; 1. in Aſturias, 25 miles NW. of Oviedo: 2. in Leon, 13 miles NW. of Leon: 3. in New Caſtile, 8 miles N. of Seguenca.

* PAREGORICK. *adj.* [παρηγορικος.] Having the power in medicine to comfort, mollify and aſſuage. *Dict.*

PAREGORIES, *n. ſ.* in pharmacy, medicines that aſſuage pain, otherwiſe called ANODYNES.

PAREJA, John, an eminent painter, born in the W. Indies, and originally a ſlave to Diego Velaſquez, a celebrated painter. He acquired the art by ſtudying it privately, without his maſter's knowledge. Philip IV. one day viſiting Velaſquez's muſeum, diſcovered his merit and gave him his liberty; yet his attachment to Velaſquez was ſo ſtrong, that he continued with him till his death. His portraits are equal to thoſe of Velaſquez. He died in 1670, aged 60.

PAREIRA FRAVA, in the materia medica, a kind of oblong and large root brought from Braſil.—It is certainly a diuretic of no mean character, and has done great ſervice in nephritic caſes. In pleuriſies and quinſies, it has been attended with more ſucceſs than almoſt any medicine we know of ſingly.

PARELCON, *n. ſ.* in grammar, a figure by which a word or ſyllable is added to the end of another.

PARELLA, a town of the French republic, in the dep. of the Doria, and late county of Canaveſe, in the ci-devant Piedmonteſe; 3½ miles SSW of Ivrea, and 20 N. of Turin.

PAREMBOLE, *n. ſ.* in rhetoric, a figure wherein ſomething relating to the ſubject is inſerted in the middle of a period. All the difference between the parembole and PARENTHESIS, according to Voſſius, is, that the former relates to the ſubject in hand, whereas the latter is foreign to it.

(1.) * PARENCHYMA. *n. ſ.* [παρεγχυμα.] A ſpongy or porous ſubſtance; in phyſick, a part through which the blood is ſtrained for its better fermentation and perfection. *Dict.*

(2.) PARENCHYMA, in anatomy, is a term introduced by Eraſiſtratus, ſignifying all that ſubſtance which is contained in the interſtices between the blood-veſſels of the viſcera, which he imagined to be extravaſated and concreted blood.

(3.) PARENCHYMA OF PLANTS. Grew applies this term to the pith or pulp, or that inner part of a fruit or plant, through which the juice is ſuppoſed to be diſtributed. See PLANTS.

* PARENCHYMATOUS. } *adj.* [from *parenchyma*.] Relating
* PARENCHYMOUS. } to the parenchyma; ſpongy.—Ten thouſand ſeeds of the plant, hart's-tongue, hardly make the bulk of a pepper-corn. Now the covers and true body of each ſeed, the *parenchymatous* and ligneous part of both moderately multiplied, afford 100,000 millions of formed atoms in the ſpace of a pepper-corn. *Grew*.—Thoſe parts, formerly reckoned *parenchymatous*, are now found to be bundles of exceedingly ſmall threads. *Chyne*.

* PARENESIS. *n. ſ.* [παραινεσις.] Perſuaſion, exhortation. *Dict.*

* PARENETICK. [παραινετικος.] Hortatory.

(1.) PARENT, Anthony, as Dr Watkins calls him, or *Uniſoine*, according to others, a mathematician, born at Paris, in 1666. He ſhowed an early propenſity to mathematics. At 14 he was put under a maſter, who taught rhetoric at Chartres. Here he ſaw a dodecaëdron, upon every face of which was delineated a ſun-dial, except the loſt. Struck with the curioſity of theſe dials, he attempted drawing one himſelf. He then undertook to write a Treatiſe upon *Gnomonics*, and a book of *Geometry*. His friends then ſent for him to Paris to ſtudy the law; but theſe ſtudies were no ſooner finiſhed than he returned to mathematics. He then took pupils; and fortification having attracted particular notice, he turned his attention to it, and made two campaigns with the marq

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marquis of Aligre, by which he inſtructed himſelf in viewing fortified places; of which he drew a number of plans. M. de Billettes, being admitted in the academy of ſciences at Paris in 1699, as their mechanician, nominated for his diſciple Parent, who excelled chiefly in this branch. Though his abilities were acknowledged, yet his impetuoſity of temper provoked oppoſition; and he roſe no higher than aſſiſtant member for geometry. He enjoyed this promotion but a ſhort time; for he was taken off by the ſmall-pox the ſame year, 1716, aged 50. He was author of many pieces, chiefly on mechanics and geometry.

(2.) * PARENT. *n. ſ.* [*parent*, Fr. *parens*, Lat.] A father or mother.—All true virtues are to honour true religion as their *parent*. *Hooker*.—His cuſtom was, to ſpend an hour before evening prayer in catechiſing; whereas the *parents* and older ſort were wont to be preſent. *Fell*.—

As a publick *parent* of the ſtate,
My juſtice, and thy crime, requires thy fate. *Dryd*.
—Real care in vain and native love
In the true *parent's* panting breaſt had ſtrove.
Prior.

(3.) PARENT is a term of relation applicable to thoſe from whom we immediately derive our being. See MORAL PHILOSOPHY, *Part* II, *Sect*. III. § III. To this article belongs an enquiry into, 1. The legal duties of parents to their legitimate children. 2. Their power over them.

(4.) PARENTS, DUTIES OF, TO CHILDREN. I. The duties of parents to legitimate children conſiſt in their *maintenance*, *protection*, and *education*. 1. The duty of parents to provide for the *maintenance* of their children, is a principle of natural law; the municipal laws of all well regulated ſtates have taken care to enforce this duty: though Providence has done it more effectually than any laws, by implanting in the breaſt of every parent that natural *ſtorge*, or inſuperable degree of affection, which not even the deformity of perſon or mind, nor even the wickedneſs, ingratitude, and rebellion of children, can totally ſuppreſs or extinguiſh. The civil law not only obliges the parent to provide maintenance for his child, but will not ſuffer a parent at his death totally to diſinherit his child, without expreſsly giving his reaſon for ſo doing; and there are 14 ſuch reaſons reckoned up, which may juſtify ſuch diſinheriſon. If the parent alleged no reaſon, or a bad, or a falſe one, the child might ſet the will aſide, by ſuggeſting, that the parent had loſt the uſe of his reaſon when he made the *inofficious* teſtament. Our own laws have alſo made proviſion for this natural duty. It is a principle of law, that there is an obligation on every man to provide for thoſe deſcended from his loins. But no perſon is bound to provide a maintenance for his iſſue, unleſs where the children are impotent and unable to work, either through infancy, diſeaſe, or accident; and then is only obliged to find them with neceſſaries, the penalty on refuſal being no more than 20s. a-month. Any Popiſh parent refuſing to allow his Proteſtant child a fitting maintenance, with a view to compel him to change his religion, the lord chancellor ſhall by order of court conſtrain him to do what is juſt and reaſonable. If Jewiſh parents refuſe to allow their Proteſtant children a fitting maintenance, ſuitable to the fortune of the parent, the lord chancellor, on complaint, may make ſuch order therein as he ſhall ſee proper. The Engliſh law has made no proviſion to prevent the diſinheriting of children by will; leaving every man's property in his own diſpoſal, upon a principle of liberty in this as well as every other action. 2. *Protection* is alſo a natural duty, but rather permitted than enjoined by any municipal laws. A parent may maintain and uphold his children in their law ſuits, without being guilty of the legal crime of maintaining quarrels. A parent may alſo juſtify an aſſault and battery in defence of the perſons of his children; nay, where a man's ſon was beaten by another boy, and the father went near a mile to find him, and there revenged his ſon's quarrel by beating the other boy, of which beating he afterwards unfortunately died; it was not held to be murder, but man-ſlaughter merely. 3. To give children an *education* ſuitable to their ſtation in life is a duty pointed out by reaſon, and of far the greateſt importance of any. Yet the municipal laws of moſt countries ſeem to be defective in this point, by not conſtraining the parent to beſtow a proper education upon his children. The rich indeed are left at their own option, whether they will breed up their children to be ornaments or diſgraces to their family. Yet in one caſe, that of religion, they are under peculiar reſtrictions: for it is provided, that if any perſon ſends any child under his government beyond the ſeas, either to prevent its good education in England, or in order to enter into, or reſide in, any Popiſh college, or to be inſtructed, perſuaded, or ſtrengthened in the Popiſh religion; in ſuch caſe, beſides the diſabilities incurred by the child ſo ſent, the parent or perſon ſending ſhall forfeit 100l. which ſhall go to the ſole uſe and benefit of him that ſhall diſcover the offence. And if any parent, or other, ſhall ſend or convey any perſon beyond ſea, to enter into, or be reſident in, or trained up in, any priory, abbey, nunnery, Popiſh univerſity, college, or ſchool, or houſe of Jeſuits or prieſts; or in any private Popiſh family, in order to be inſtructed, perſuaded, or confirmed, in the Popiſh religion; or ſhall contribute any thing towards their maintenance when abroad, by any pretext whatever, the perſon both ſending and ſent ſhall be diſabled to ſue in law or equity, or to be executor or adminiſtrator to any perſon, or to enjoy any legacy or deed of gift, or to bear any office in the realm, and ſhall forfeit all his goods and chattels, and likewiſe all his real eſtate for life. See NONCONFORMISTS.

(5.) PARENTS, POWER OF, OVER CHILDREN. II. The *power* of parents over their children is derived from the former conſideration, their *duty*; this authority being given them, partly to enable the parent more effectually to perform his duty, and partly as a recompence for his care and trouble in the faithful diſcharge of it. The ancient Roman laws gave the father a power of life and death over his children; upon this principle, that he who gave had alſo the power of taking away. But the rigour of theſe laws was ſoftened by ſubſequent conſtitutions: ſo that we find a father baniſhed by the emperor Adrian for killing his ſon, though he had committed a very heinous crime; upon this man-

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im, that *patris poteſtas in pietate debet, non in atrocitate, conſiſtere.* But ſtill they maintained to the laſt a very large and abſolute authority: for a ſon could not acquire any property of his own during the life of his father; but all his acquiſitions belonged to the father, or at leaſt the profits of them, for his life. The power of a parent by the Engliſh law is much more moderate; but ſtill ſufficient to keep the child in order and obedience. He may lawfully correct his child, being under age, in a reaſonable manner: for this is for the benefit of his education. The conſent of the parent to the marriage of his child under age, is abſolutely neceſſary; for without it the contract is void. A father has no other power over his ſon's eſtate, than as his truſtee or guardian; for though he may receive the profits during the child's minority, yet he muſt account for them when he comes of age. He may indeed have the benefit of his children's labour while they live with him, and are maintained by him; but this is no more than he is entitled to from his apprentices or ſervants. The legal power of a father (for a mother, as ſuch, is entitled to no power, but only to reverence and reſpect,) over the perſons of his children ceaſes at the age of 21; for they are then enfranchiſed by arriving at years of diſcretion, or that point which the law has eſtabliſhed when the empire of the father, or other guardian, gives place to the empire of reaſon. Yet, till that age arrives, this empire of the father continues even after his death; for he may by his will appoint a guardian to his children. He may alſo delegate part of his parental authority, during his life, to the tutor or ſchoolmaſter of his child; who is then *in loco parentis*, and has ſuch a portion of the power of the parent committed to his charge, *viz.* that of reſtraint and correction, as may be neceſſary to anſwer the purpoſes for which he is employed. The power of a parent in China is very great; for a father, while living, has the power of an abſolute deſpotic tyrant, and after his death is worſhipped as a god. Let a ſon become ever ſo rich, and a father ever ſo poor, there is no ſubmiſſion, no point of obedience, that the latter cannot command, or that the former can refuſe. The father is abſolute maſter, not only of his ſon's eſtate, but alſo of his concubines and children, whom, whenever they diſpleaſe him, he may ſell to ſtrangers. If a father accuſes his ſon before a mandarine, there needs no proof of his guilt; for they cannot believe that any father can be ſo unnatural as to bring a falſe accuſation againſt his own ſon. But ſhould a ſon be ſo inſolent as to mock his father, or arrive at ſuch a pitch of wickedneſs as to ſtrike him, all the province where this ſhameful act of violence is committed is alarmed; it even becomes the concern of the whole empire; the emperor himſelf judges the criminal. All the mandarines near the place are turned out of their poſts, eſpecially thoſe of the town where he lived, for having been ſo negligent in their inſtructions; and all the neighbours are reprimanded for neglecting, by former puniſhments, to put a ſtop to the wickedneſs of the criminal before it arrived to ſuch flagitiouſneſs. As to the unhappy wretch himſelf, they cut him into a thouſand pieces, burn his bones, level his houſe to the ground, and even thoſe houſes that ſtand near it, and ſet up monuments and memorials of the horrid deed. See CHILDREN, FILIAL PIETY, PARENTAL AFFECTION, &c.

* PARENTAGE. *n. ſ.* [*parentage*, Fr. from *parent.*] Extraction; birth; condition with reſpect to the rank of parents.—

A gentleman of noble *parentage*. *Shak.*
Though men eſteem thee low of *parentage*,
Thy father is th' eternal king. *Milt.*
To his levee go,
And from himſelf your *parentage* may know. *Dryd.*

—We find him not only boaſting of his *parentage* as an Iſraelite at large, but particularizing his deſcent from Benjamin. *Atterbury.*

(1.) * PARENTAL. *adj.* [from *parent.*] Becoming parents; pertaining to parents.—It overthrows the careful courſe and parental proviſion of nature. *Brown.*—Theſe eggs hatched by the warmth of the ſun into little worms feed without any need of *parental* care. *Derham.*—Young ladies, on whom *parental* controul ſits heavily, give a man of intrigue room to think, that they want to be parents. *Clariſſa.*

(2.) PARENTAL AFFECTION, the endearing attachment of parents to their children, including it love, a deſire of doing good to thoſe who l an act of our own depend upon us for all th they enjoy. Nature even excites this affection brutes: but in them it continues only ſo long it is neceſſary for the preſervation of their o ſpring; for when theſe are able to provide f themſelves, it ceaſes, and the relation is forgotte In man, however, though it leſſens, or at leaſt l comes leſs anxious as the dependence of the chi becomes leſs, it never entirely ceaſes, except ſome few inſtances of extreme depravity. And, i deed, it is one of the greateſt comforts of lif even when all dependence has ceaſed. As p rental kindneſs is the moſt ſimple and natural e panſion of ſelf-love, ſo there are innumerable i ſtances of it in all countries ſavage and civiliz

PARENTALIA, in antiquity, funeral obſ quies, or the laſt duties paid by children to the deceaſed parents.

* PARENTATION. *n. ſ.* [from *parento*, La Something done or ſaid in honour of the dead.

(1.) * PARENTHESIS. *n. ſ.* [*parentheſe*, F παρα, *ν* and τιθημι.] A ſentence ſo included in a other ſentence, as that it may be taken out, wit out injuring the ſenſe of that which incloſes i being commonly marked thus, ( ).—In vain is r perſon excepted by a *parentheſis* of words, wh ſo many are armed againſt me with ſwords. *Charles.*—He is ſeldom mentioned, without a c rogatory *parentheſis*, in any author. *Brown.*—

Thou ſhalt be ſeen,
Tho' with ſome ſhort *parentheſis* between,
High on the throne of wit. *Dryd.*

—Don't ſuffer every occaſional thought to ca you away into a long *parentheſis*. *Watts.*

(2.) PARENTHESIS, is defined by others, c tain intercalary words inſerted in a diſcour which interrupt the ſenſe, but ſeem neceſſary t the better underſtanding of the ſubject. But t is not a definition of the parentheſis, but of t ſentences included in it. Dr Johnſon's, § 1, ſtrictly accurate. The parentheſes are often m appli

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applied by authors and printers, by being made to include words at the *end* of a ſentence, where they are quite unneceſſary, and ſtill more, when they are made to incloſe clauſes without which the ſentence is incomplete.

* PARENTHETICAL. *adj.* [from *parentheſis.*] Pertaining to a parentheſis.

PARENTIUM, an ancient ſea port town of Iſtria: (*Plin.* iii. c. 19.) now called

PARENZO, a ſmall but ſtrong town of Maritime Auſtria, in Iſtria, with a biſhop's ſee and a good harbour; ſeated on the gulf of Venice, 9 miles NNW. of Rovigno, and 65 E. of Venice. It ſubmitted to the Venetians in 1267. Lon. 13. 56. E. Lat. 45 24. N.

* PARER. *n. ſ.* [from *pare.*] An inſtrument to cut away the ſurface.—

A hone and a *parer*, like ſole of a boot,
To pare away graſſe, and to raiſe up the root.
Tuſſer.

* PARERGY. *n. ſ.* [παρὰ and ἔργον.] Something camportant; ſomething done by the by.—Scripture being ſerious, and commonly omitting ſuch *parergies*, it will be unreaſonable to condemn all laughter. *Brown.*

PARESIS, in medicine, a palſy of the bladder, wherein the urine is either ſuppreſſed or diſcharged involuntarily.

PARETONEUM, in mineralogy, an earth found on the ſhores of Egypt, Cyrene, and Crete, uſed by the ancients in painting. It had its name either from a part of Egypt, near which it was gathered, or from a town in that kingdom, where it was uſually ſold. Vitruvius is of the firſt opinion, and Volaternus of the laſt. Of late it was thought to be loſt; but it is ſtill common on the ſhores of moſt of the iſlands of the Archipelago, though not obſerved or regarded; and is truly a very heavy and tough clay of a fine white colour, found in maſſes of different ſizes, generally as ſoft as the ſofter clays within the ſtrata; and, by rolling about on the beach in this ſtate, it gathers up the ſand, ſmall ſhells, and other foulneſſes, we always find about it. It is likely there are ſtrata of it fine and pure in the cliffs there, and that the ſea waſhes off maſſes of them in ſtorms and high tides, which are what we find.

PARFAIT, Francis, a French dramatic writer, born at Paris, in 1698. He wrote a tragedy entitled *Atreé*, and a comedy called *Panurge*; but his greateſt work was a *General Hiſtory of the French Theatre*, from its origin to his own time; in 15 vols, 12mo. He died in 1753, aged 55.

PARFRE, John, the oldeſt dramatic writer of England, but of whom nothing is recorded; except that he wrote a piece, entitled *Candlemas Day, or the killing of the Children of Iſrael; a myſtery*; 1512; republiſhed in Mrs Hawkins's Collection of Old Plays, in 1773.

PARGA, a ſtrong ſea port town of Maritime Auſtria, in the late Venetian Albania; 26 miles W. of Arta, oppoſite Corfu; inhabited by Greeks and Albanians. Lon. 20. 47. E. Lat. 39. 28. N.

(1.) * PARGET. *n. ſ.* Plaſter laid upon roofs of rooms.—

Gold was the *parget*, and the cieling bright
Did ſhine all ſcaly with great plates of gold.
Spenſer.

—Of Engliſh talc the coarſer ſort is called plaſter or *parget*: the finer ſpaad.

(2.) PARGET, in mineralogy, a name given to ſeveral kinds of gypſum, or plaſter ſtone.

* *To* PARGET. *v. a.* [from the noun.] To plaſter; to cover with plaſter.—While we thus paint and *parget* our own deformities, we cannot allow any the leaſt imperfection of another's to remain undetected. *Government of the Tongue.*

* PARGETER. *n. ſ.* [from *parget.*] A plaſterer.

PARGETING, *part. n. ſ.* in building, is uſed for the plaſtering of walls, and ſometimes for plaſter itſelf. Pargeting is of various kinds: as, 1. White lime and hair-mortar laid on bare walls. 2. On bare laths, as in partitioning and plain cieling. 3. Renewing the inſides of the walls, or doubling partition walls. 4. Rough-caſting on heart-laths. 5. Plaſtering on brick-work, with finiſhing mortar, in imitation of ſtone-work; and the like upon heart-laths.

PARHAM, a town of Antigua, 5 miles W. of St John's.

(1.) * PARHELION. *n. ſ.* [παρὰ and ἥλιος.] A mock ſun.—To neglect that ſupreme reſplendency, that ſhines in God, for thoſe dim repreſentations of it, that we ſo doat on in the creature, is as abſurd, as it were for a Perſian to offer his ſacrifice to a *parhelion*, inſtead of adoring the ſun. *Boyle.*

(2.) PARHELION, or PARHELIUM, [from παρὰ near, and ἥλιος *ſun*,] in natural philoſophy, is a meteor in form of a bright light, appearing on one ſide of the ſun. Appearances of this kind have been mentioned both by the ancients and moderns. Ariſtotle obſerves, that in general they are ſeen only when the ſun is near the horizon, though he takes notice of two that were ſeen in Boſphorus from morning till evening; and Pliny has related the times when ſuch phenomena were obſerved at Rome. Gaſſendi ſays, that in 1635 and 1636 he often ſaw one mock ſun. Two were obſerved by M. De la Hire in 1689; and the ſame number by Caſſini in 1693, Mr Grey in 1700, and Dr Halley in 1702: but the moſt celebrated appearances of this kind were ſeen at Rome by Scheiner, by Muſchenbroeck at Utrecht, and by Hevelius at Sedan. By the two former, 4 mock ſuns were obſerved, and by the latter 7. Parhelia are apparently of the ſame ſize with the ſun, though not always of the ſame brightneſs, nor even of the ſame ſhape; and when a number appear at once, there is ſome difference in both reſpects among them. Externally they are tinged with colours like the rainbow; and many have a long fiery tail oppoſite to the ſun, but paler towards the extremity. Parhelia are generally accompanied with coronas, ſome of which are tinged with rainbow colours, but others are white. (See HALO.) They differ in number and ſize; but all agree in breadth, which is that of the apparent diameter of the ſun. A very large white circle, parallel to the horizon, generally paſſes through all the parhelia; and, if it were entire, it would go through the centre of the ſun. Sometimes there are arcs of leſſer circles concentric to this, touching thoſe coloured circles which ſurround the ſun. They are alſo tinged with co-

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lours, and contain other parhelia. There are alſo ſaid to have been other circles obliquely ſituated with reſpect to all theſe. The order of the colours in theſe circles is the ſame as in the rainbow; but on the inſide, with reſpect to the ſun, they are red, as is alſo obſerved in many haloes. Parhelia have been viſible for 1, 2, 3, and 4 hours together; and in North America they are ſaid to continue ſome days, and to be viſible from ſunriſe to ſunſet. When the parhelia diſappear, it ſometimes rains, or ſnow falls in the form of oblong ſpiculæ, as Maraldi, Weidler, Krafft, and others have obſerved; and becauſe the air in N. America abounds with ſuch frozen ſpiculæ, which are even viſible to the eye, according to Ellis and Middleton, ſuch particles have been thought to be the cauſe of all coronas and parhelia. Mr Wales ſays, that, at Churchill in Hudſon's Bay, the riſing of the ſun is always preceded by two long ſtreams of red light, one on each ſide of him, and about 20° diſtant from him. Theſe riſe as the ſun riſes, and as they grow longer begin to bend towards each other, till they meet directly over the ſun, juſt as he riſes, forming there a kind of parhelion or mock ſun. Theſe two ſtreams of light, he ſays, ſeem to have their ſource in two other parhelia, which riſe with the true ſun; and in winter when the ſun never riſes above the haze or fog, which he ſays is conſtantly found near the horizon, all theſe accompany him the whole day, and ſet with him. Once or twice he ſaw a 4th parhelion directly under the ſun; but this is not common. Theſe facts being conſtant, are very valuable, and may throw great light on the theory of theſe remarkable phenomena. Sometimes parhelia appear in a different manner; as when three ſuns have been ſeen in the ſame vertical circle, well defined, and touching one another. The true ſun was in the middle, and the loweſt touched the horizon; and they ſet one after the other. This appearance was ſeen by Maieziew in 1722. Other appearances ſimilar to this are recited by M. Muſchenbroeck. Sometimes the ſun has riſen or ſet with a luminous tail projecting from him, of the ſame breadth with his diameter, and perpendicular to the horizon. Such an appearance was ſeen by Caſſini in 1672 and 1692, by De la Hire in 1702, and by Mr Ellis in Hudſon's Bay. As M. Feuilée was walking on the banks of the river La Plata, he ſaw the ſun riſing over the river with a luminous tail projecting downwards, which continued till he was ſix degrees high. PARASELENÆ, or mock moons, have alſo been ſeen, accompanied with tails and coloured circles, like thoſe which accompany the parhelia. An account of ſeveral, and a particular deſcription of a fine appearance of this kind, may be ſeen in Muſchenbroeck. The Roman phenomenon, obſerved by Scheiner, is famous on account of its having been the firſt appearance of the kind that engaged the attention of philoſophers. It is repreſented in *Pl.* CCLXIX. *fig.* 1. in which A is the place of the obſerver, B his zenith, C the true ſun, AB a plane paſſing thro' the obſerver's eye, the true ſun, and the zenith. About the ſun C, there appeared two concentric rings, not complete, but diverſified with colours. The leſſer of them, DEF, was fuller, and more perfect; and though it was open from D to F, yet thoſe ends were perpetually endeavouring to unite; and ſometimes they did ſo. The outer of theſe rings was much fainter, ſo as ſcarcely to be diſcernible. It had, however, a variety of colours; but was very inconſtant. The third circle, KLMN, was very large, and all over white, paſſing thro' the middle of the ſun, and everywhere parallel to the horizon. At firſt this circle was entire; but towards the end of the appearance it was weak and ragged, ſo as hardly to be perceived from M towards N. In the interſection of this circle, and the outward iris GKI, there broke out two parhelia, or mock ſuns, N and K, not quite perfect; K being rather weak, but N ſhone brighter and ſtronger. The brightneſs of the middle of them was ſomething like that of the ſun; but towards the edges they were tinged with colours like thoſe of the rainbow; and they were uneven and ragged. The parhelion N was a little wavering, and ſent out a ſpiked tail, NP, of a colour ſomewhat fiery, the length of which was continually changing. The parhelia at L and M in the horizontal ring were not ſo bright as the former; but were rounder, and white, like the circle in which they were placed. The parhelion N diſappeared before K; and while M grew fainter, K grew brighter, and vaniſhed the laſt of all. The order of the colours in the circles DEF, GKN, was the ſame as in the common halos, namely, red next the ſun; and the diameter of the inner circle was alſo about 45°; which is the uſual ſize of a halo. The rev. Dr Hamilton ſent the following account of parhelia ſeen at Cookſtown to the Royal Iriſh Academy:—"Wedneſday, Sept. 24th, 1783, as I was preparing to obſerve the ſun paſſing through the meridian before the firſt limb touched the centre wire, it was obſcured by a dark well defined cloud, about 10° in diameter. Upon going to the door of the tranſit room, to ſee if it was likely ſoon to paſs off the diſk of the ſun, I obſerved the following phenomena: From the weſtern edge of the cloud iſſued a luminous arc parallel to the horizon, perfectly well defined, extending exactly to the northern meridian; it was about 30' broad, white, and ended in a blunted termination. On it were two parhelia; the neareſt to the ſun diſplaying the priſmatic colours; the remote one white, and both ill defined. In a ſhort time the cloud had paſſed off and ſhowed the luminous almicantar, reaching perfect to the true ſun. While things were thus ſituated, I meaſured with an accurate ſextant the diſtances of the parhelia; I found the coloured one 26°, the remoter one 90°, from the true ſun. Juſt as I had done this, a new and priſmatic circle ſurrounded the ſun, immediately within the priſmatic parhelion. And now another coloured parhelion appeared on the eaſtern board. The ſextant, with its face up and down, exactly meaſured this and the former at the original diſtance of 26°; the luminous almicantar ſtill remaining perfect. In about 10 or 12 minutes whitiſh hazy clouds came on, and obſcured all theſe uncommon appearances. I did not obſerve that the atmoſpherical phenomena before or after were at all uncommon. The wind a light breeze at SSW. Bar. 29,6 riſing. Thermometer 55. In *fig.*

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Fig. 1.

Plate CLXIX.

Furnace for Pastes.

Fig. 4.

Fig. 3.

Fig. 1.

Fig. 2.

Fig. 2.

Pine Apple Shot

A Petard.

Pastinaca Panax, or the Opoponax.

Cartouches.

Pholas.

T. Clark Sculp.t Edin.r

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SM represents the south meridian; NM north meridian; PP the prismatic circle, with two prismatic suns or parhelia, at 26° distance on each side the true sun; W the white parhelion, at 90° distance from the true sun; LA the luminous almicantar; and HO the horizon. Various hypotheses have been framed by philosophers to account for this phenomenon, particularly by M. Mariotte, Descartes, and Huygens. None of them, however, are satisfactory: but readers who wish to become acquainted with them may consult Huygens's dissertation on this subject, in Smith's Optics, book i. ch. 11. Muschenbroeck's Introduction, &c. vol. xi. p. 1038, &c. 4to.; but especially Dr Priestley's History of Vision, Light, and Colours, vol. ii. p. 613, &c.

(1.) PARIA, or NEW ANDALUSIA, a country of Terra Firma in S. America; bounded on the N. by the North Sea; E. by Surinam; S. by Guiana, and W. by New Granada and the Caracas. See ANDALUSIA, NEW. Cumana is the capital. See CUMANA.

(2.) PARIA, a district of S. America, in La Plata, beginning 210 miles NW. of the city of La Plata, and extending 120 miles. The climate is cold, and the soil barren; but it has silver mines, and abounds with cattle. Its cheese is much esteemed, and exported through all the provinces of Peru.

(1.) PARIAN, *adj.* Of or from PAROS.

(2.) PARIAN CHRONICLE. See ARUNDELIAN MARBLES, § 1—3. Under that article, we have given as full a view of the arguments for and against the authenticity of the Parian Chronicle as the subject seemed to require, or as the nature of our work would admit. Such of our readers, however, as wish for further information on this subject, (which is equally interesting to the scholar and to the antiquarian,) we must refer to Robertson's attack, and to Gough's learned and judicious vindication of their authenticity, published in *Archæologia* for 1789. The extent of his learning, and the solidity of his arguments, appear, upon the whole, to outweigh the objections of his sensible and plausible opponent. Hewlett's book upon the same side of the question is also ingenious.

(3.) PARIAN MARBLE, in the natural history of the ancients, the white marble used then, and to this day, for carving statues, &c. and called by us at this time STATUARY MARBLE. Too many of the later writers have confounded all the white marbles under the name of the *Parian*; and among the workmen, this and all the other white marbles have the common name of *alabaster*; so that it is in general forgotten among them, that there is such a thing as alabaster different from marble; which, however, is truly the case. Almost all the world also have confounded the *Carrara marble* with this, though they are really very different; the Carrara kind being of a finer structure and clearer white than the Parian; but less bright and splendid, harder to cut, and not capable of so glittering a polish. The true Parian marble has usually somewhat of a faint bluish tinge among the white, and often has blue veins in different parts of it. It is supposed by some to have had its name from the island Paros, (See PAROS,) where it was first found; but others will have it to have been so called from Agoracritus Parius, a famous statuary, who ennobled it by cutting a statue of Venus in it.

PARIANI, the inhabitants of PARIUM.

PARIAS, or PERREAS, a tribe of Hindoos, so peculiarly degraded beyond all others, that they live by themselves in the out-skirts of towns: and, in the country, build their houses apart from the villages, or rather have villages of their own, furnished with wells; for they dare not fetch water from those which other families make use of; and, lest these latter should inadvertently go to one of theirs, they are obliged to scatter the bones of dead cattle about their wells, that they may be known. They dare not in cities pass through the streets where the Bramins live; nor set foot in the villages where they dwell; nor enter a temple, either of their god Wistnow or Eswara; because they are held impure. They get their bread by sowing, digging, and building the walls of mud houses; most of those inhabited by the common people being raised by these Parias; who do all such kinds of dirty work as other people will not meddle with. Nor is their diet much more cleanly; for they eat cows, horses, fowls, or other carrion, which die of themselves. One would scarce imagine, that contentions for precedency should ever occur among a people who have renounced all cleanliness, and, like swine, wallow in filth; and who are held in such utter contempt by the rest of the Hindoos; yet pride has divided the Parias into two classes: the first are simply called PARIAS, the other SERIPERES. The employment of these last is to go about selling leather, which they dress; also to make bridles, and some of them serve for soldiers. The Parias, who reckon themselves the better family, will not eat in the houses of the Seriperes; who must pay them respect, by lifting their hands aloft, and standing upright before them. The Seriperes, when they marry, cannot set up a pandal, a kind of garland, before their doors, made with more than three stakes or trees; else the whole city would be in motion. They are, in fact, slaves; for when any person of authority dies in the families of the Komitis, Sittis, Palis, farriers, or goldsmiths, and the relations incline to give some clothes to the Seriperes, their beards must be shaven; and when the corpse is carried out of town to be burned or interred, they must do that office; for which each receives a piece of silver, worth 3½ sous. These Seriperes are called at Surat *Halalchors*; that is, in the Persian language, *eat-alls*, or *eaters at large*. Nothing can offend an Hindoo more than to be called an Halalchor: yet these poor people submit to all this drudgery and contempt without repining. They are very stupid, and ignorant, and even vicious, from their wretched way of life: the Bramins and nobility shun them as if they had the plague, and look on the meeting a Paria as the greatest misfortune. To come near one of them is a sin, to touch them a sacrilege. If a Paria were dying, it is infamy to visit him, or to give him the least assistance, even in the utmost distress. A Bramin who touches a Paria, immediately washes himself from the impurity. Even their shadow and breath being reckoned contagious,

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ous, they are obliged to live on the eaſt ſide of their towns, that the weſterly winds which reign in this country may keep back their breath. And a Bramin may kill one of theſe unhappy creatures, if he does not avoid it by getting out of his way: In ſhort, they think them reprobated by God, and believe the ſouls of the damned enter into the Parias, to be puniſhed for their crimes. Yet the miſſion have found among theſe dregs of the people very active zealous catechiſts, who by their labours have very much contributed to the converſion of their countrymen, particularly one Rajanaiken, a Paria ſoldier, who, of all the inferior miſſionaries, has diſtinguiſhed himſelf moſt by his labours and ſufferings.

PARICHIA. See PAROS, N° 2.

PARIDRONG, a town of Thibet. Lon. 88. 34. E. Lat. 28. 0. N.

PARIED, a town of France, in the dep. of the Meuſe; 6 miles SSE. of Eſtaing, and 12 E. of Verdun.

PARIESOVATZ, a town of Croatia.

* PARIETAL. *adj.* [from *paries*, Latin.] Conſtituting the ſides or walls.—The lower part of the *parietal* and upper part of the temporal bones were fractured. *Sharp.*

PARIETALIA OSSA. See ANATOMY, § 119.

PARIETARIA, PELLITORY OF THE WALL; a genus of the monœcia order, belonging to the polygamia claſs of plants; and in the natural method ranking under the 53d order, *Scabridæ*. The calyx of the hermaphrodite is quadrifid; there is no coroila; there are 4 ſtamina; one ſtyle; and one ſeed, ſuperior and elongated. The female calyx is quadrifid; there is no corolla; nor are there any ſtamina. There is one ſtyle; and one ſeed ſuperior, and elongated. There are ſix ſpecies, of which the

PARIETARIA OFFICINALIS is uſed in medicine. This has a creeping root. The ſtalk grows erect, is rough to the touch, and adheſive. The leaves are alternate, elliptical, lanceolate, veined, and a little rough. The flowers grow out of the alæ of the leaves, in ſeſſile, branched, verticillate cluſters, of a greeniſh colour tinged with red. The antheræ have a great degree of ſenſibility; for, if irritated with the point of a pin, they fly from the calyx with elaſtic force, and throw out their powder. The plant has a cooling and diuretic quality. Three ounces of the juice taken internally, or a fomentation externally applied, have been found ſerviceable in the ſtrangury. The plant laid upon heaps of cotton infeſted with weeviis, is ſaid to drive away thoſe deſtructive inſects.

* PARIETARY. *n. ſ.* [*parietaire*, Fr.] An herb. *Ainſ.*

PARIETES, in anatomy, a term uſed for the incloſures or membranes that ſtop up or cloſe the hollow parts of the body; eſpecially thoſe of the heart, the thorax, &c. The parietes of the two ventricles of the heart are of unequal ſtrength and thickneſs; the left exceeding the right, becauſe of its office, which is to force the blood through all parts of the body; whereas the right only drives it through the lungs.

PARIGNE, a town of France, in the department of the Sarte: 9 miles SE. of Mans.

PARILIA. See PALES.

PARILLA, or Santa Parilla, a town of Peru, in Lima, on the Santa, near the coaſt, 50 miles S. of Truxillo, and 230 NW. of Lima. Lon. 77. 50. W. Lat. 8. 36. S.

PARILOVA, a town of Ruſſia, in Irkutſk.

(1.) PARINA CANCHA, a province of Peru S. of Guamanga; fertile in corn and fruits, and abounding with cattle, as well as with gold and ſilver mines.

(2.) PARINA COCAS, a province of Lima, 7 miles long; which alſo abounds with gold and ſilver mines, paſtures, cattle, corn, and fruits.

* PARING. *v. ſ.* [from *pare*.] That which is pared off any thing; the rind.—Virginity breeds mites, much like a cheeſe; and conſumes itſelf to the very *paring*. *Shak.*—

To his gueſt, tho' no way ſparing,
He eat himſelf the rind and *paring*. *Pope*

—In May, after rain, pare off the ſurface of the earth, and with the *parings* raiſe your hills higher and enlarge their breadth. *Mort. Huſb.*

PARIPE, a town of Brazil, in Bahia.

(1.) PARIS, in fabulous hiſtory, the ſon of Priam, king of Troy, by Hecuba, alſo named *Alexander*. He was decreed, even before his birth, to become the ruin of his country; and when his mother, in the firſt months of her pregnancy, had dreamed that ſhe ſhould bring forth a torch which would ſet fire to her palace, the ſoothſayers foretold the calamities which were to be expected from the imprudence of her future ſon, and which would end in the ruin of Troy. Priam, to prevent ſo great a calamity, ordered his ſlave Archelaus to deſtroy the child as ſoon as he was born. The ſlave only expoſed the child on mount Ida, where the ſhepherds of the place found him, and educated him as their own. Some ſay a ſhe bear ſuckled him. Though educated among ſhepherds and peaſants, he gave very early proofs of courage and intrepidity; and from his care in protecting the flocks of mount Ida from the rapacity of the wild beaſts, he was named, *Alexander*, a helper of men. He gained the eſteem of all the ſhepherds, and his manly deportment recommended him to Œnone, a nymph of Ida, whom he married, and with whom he lived with the moſt perfect tenderneſs. Their conjugal peace was, however, of no long duration. At the marriage of Peleus and Thetis, ATE, the goddeſs of diſcord, who had not been invited to partake of the entertainment, ſhowed her diſpleaſure, by throwing into the aſſembly of the gods who were at the celebration of the nuptials, a golden apple, on which were written the words, *Let it be given to the faireſt*. All the goddeſſes claimed it as their own; the contention at firſt became general; but at laſt only three, Juno, Venus, and Minerva, wiſhed to diſpute their reſpective right to beauty. The gods, unwilling to become arbiters in an affair ſo delicate in its nature, appointed Paris to adjudge the prize. The goddeſſes appeared before their judge without covering or ornament, and each endeavoured by promiſes to influence his judgment. Juno promiſed him a kingdom, Minerva, wiſdom and military glory; and Venus the faireſt woman in the world for his wife. [Ovid. *Heroid.* 17. v. 118.] After he had heard the

ſeve-

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several claims and promises, Paris adjudged the prize to Venus, and gave her the golden apple. This decision drew upon the judge and his family the resentment of the two other goddesses. Soon after, Priam proposed a contest among his sons and other princes, and promised to reward the conqueror with one of the finest bulls of mount Ida. His emissaries were sent to procure the animal, and it was found in the possession of Paris, who reluctantly yielded it. But he went to Troy and entered the lists of the combatants. He was received with applause, and obtained the victory over his rivals, Nestor the son of Neleus, Cyerus son of Neptune, Polites, Helenus, and Deiphobus, sons of Priam. He likewise obtained a superiority over Hector himself; who, enraged to see himself conquered by an unknown stranger, pursued him closely; and Paris must have fallen a victim to his rage, had he not fled to the altar of Jupiter. This sacred retreat preserved his life; and Cassandra, the daughter of Priam, struck with the similarity of the features of Paris with those of her brothers, inquired his birth and his age. From these circumstances she discovered that he was her brother, and as such introduced him to her father and to her brothers. Priam acknowledged Paris as his son, and all jealousy ceased among the brothers. Paris did not long remain inactive; he equipped a fleet, as if willing to redeem Hesione his father's sister, whom Hercules had carried away, and obliged to marry Telamon the son of Æacus. This was the pretended motive of his voyage, but the causes were far different. Helen was the fairest woman of the age, and Venus had promised her to him. He therefore went to Sparta, the residence of Helen, who had married Menelaus. He was received with great respect; but he abused the hospitality of Menelaus, and while the husband was absent in Crete, persuaded Helen to elope with him, and to fly to Asia. Priam received her without difficulty, as his sister was then detained in a foreign country, and as he wished to show himself as hostile as possible to the Greeks. This affair was soon productive of serious consequences. When Menelaus had married Helen, all her suitors had bound themselves by a solemn oath to defend her from every violence; and therefore he reminded them of their engagements, and called upon them to recover her. Upon this all Greece took up arms; Agamemnon was chosen general of the combined forces, and a regular war was begun. Paris, meanwhile, who had refused Helen to the petitions and embassies of the Greeks, armed himself, with his brothers and subjects, to oppose the enemy; but he fought with little courage, and at the very sight of Menelaus, whom he had so recently injured, his courage vanished, and he retired from the army. In a combat with Menelaus, Paris must have perished, had not Venus interfered. He wounded, however, in another battle, Machaon, Eurypilus, and Diomedes; and, according to some, he killed with an arrow the great Achilles. The death of Paris is differently related: some say he was mortally wounded by one of the poisoned arrows of Philoctetes; and that when he found himself languid by his wounds, he ordered himself to be carried to the feet of Œnone, whom he had basely abandoned, and who had foretold him that he would solicit her assistance in his dying moments. He expired before he came into the presence of Œnone, who threw herself upon his body, and stabbed herself to the heart. According to others, Paris did not immediately go to Troy when he left the Peloponnesus, but he was driven on the coasts of Egypt, where Proteus, the king of the country, detained him. He died about 1188 B. C. See TROY.

(2.) PARIS, Matthew, one of the best English historians, from William the Conqueror to the latter end of the reign of Henry III. Leland, his original biographer, informs us, that he was a monk of St Alban's, and that he was sent by Pope Innocent to reform the monks of the convent at Holm in Norway. Bp. Bale adds, that, on account of his extraordinary gifts, he was much esteemed by Henry III. who ordered him to write the history of his reign. Fuller makes him a native of Cambridgeshire, and says, he was sent by the pope to visit the monks in the diocese of Norwich. Paris died in the monastery of St Alban's in 1259. He was a man of extraordinary knowledge for the 13th century; of an excellent moral character, and, as an historian, of strict integrity. His works are, 1. *Historia ab Adamo ad Conquestum Anglie*, lib. i. M. S. col. C. C. Cantab. c. ix. Most of this book is transcribed, by Matthew of Westminster, into the first part of his *Florilegium*. 2. *Historia major, seu rerum Anglicanarum historia à Gul. Conqueſtoris adventu ad annum* 43 *Henrici* III. &c. several times printed. 3. *Vitæ duorum Offarum, Merciæ regum, S. Albani fundatorum.* 4. *Gesta* 22 *abbatum S. Albani.* 5. *Additamenta chronicorum ad hist. majorem*; printed. 6. *Historia minor, sive epitome majoris historiæ*; MS. Besides many other things in MS.

(3.) PARIS, in geography, the capital of France; is situated on the river Seine, in the department of Paris, and ci-devant isle of France, being one of the largest and finest cities in Europe. It derived its modern name from the ancient PARISII; and is supposed to have had the Latin name of LUTETIA, from *Lutum, mud*, the place where it now stands having been anciently very marshy and muddy. Ever since the reign of Hugh Capet, that is, for above 800 years, this city hath been the usual residence of the kings of France; it is of a circular form, and, including the suburbs, about 15 English miles, in circumference. The number of its inhabitants is computed at above 800,000; that of its streets above 1000; and that of its houses upwards of 24,000, exclusive of the public structures of all sorts. Its greatest defect is the want of good water. The streets are narrow, but well built, paved, and lighted. The number of churches, hospitals, market-places, fountains, gates, and bridges, in this city is very great; besides the NATIONAL INSTITUTE, which supplies the place of the ci-devant academies, public libraries, &c. and above 100 hotels, some of them very stately. That part called *the City*, lies in the centre, and consists of three islands formed by the Seine, *viz.* the isles of Palais, Notre Dame, and Louviers. It is the principal of the three parts into which the city is divided, and contains the

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the following remarkable ſtructures: 1. Several bridges; of which ſome are of wood, and others of ſtone, and have moſt of them a row of houſes on each ſide. The chief of theſe are the Pont neuf and Pont royal: the firſt conſiſts of 12 arches, which, properly ſpeaking, make two bridges, the one leading from the ſuburbs of St Germain to the city, and the other from thence to that part called *la Ville*; there is a carriage-way in the middle 30 feet broad, and foot walks on each ſide, raiſed two feet high; and in the centre ſtood, before the revolution, a braſs ſtatue of king Henry IV. on horſeback; but it was deſtroyed during the anti-monarchical mania, in 1792. On this bridge is alſo the building called *La Samaritaine*, from a group of figures upon it repreſenting our Saviour and the Samaritan woman, ſtanding near Jacob's well. Here is a pump to raiſe the water, which through ſeveral pipes ſupplies the quarter of the Louvre, and ſome other parts of the town. The Pont-royal, which leads to the Thuilleries, was built by order of Lewis XIV. in the room of a wooden bridge that was carried away by the current in 1684. 2. The cathedral of *Notre Dame*, or our Lady, being dedicated to the Holy Virgin, which is a large ſtately Gothic ſtructure, ſaid to have been founded by king Childeric, and built in the form of a croſs. Here, beſides other great perſonages, are interred the cardinals de Retz and Noailles. From the two ſquare towers belonging to it, is a noble proſpect of the city and neighbouring country. Here is a vaſt quantity of gold and ſilver plate, rich tapeſtry, &c. and formerly there were 50 canons. Near it ſtood the palace of the Abp. in which is the advocates' library. 3. The priory and pariſh church of *St Bartholomew*; the laſt of which is the moſt beautiful in all this part of the city, and ſtands near the Palais. 4. The *Palais*, which gives name to an iſland, and in which the parliament, with many other courts, were formerly held. There is a beautiful chapel belonging to the Palais: in which is alſo the priſon, or jail, called *La Conciergerie*. 5. The Hotel Dieu, the moſt ancient and largeſt hoſpital in Paris, in which 8000 ſick and infirm poor are taken care of. 6. The hoſpital of St Catharine, where poor women and maidens are entertained three days. 6. The Grande Chatelet. 7. Fort l'Eveque, in which is the mint and a priſon, near the ſtreet La Ferroniere, in which Henry IV. was ſtabbed by Ravilliac. 8. St Germain l'Auxerrois. 9. The Louvre, an ancient royal palace, of which a part was rebuilt by Lewis XIV. On one of its gates is the following inſcription, *Dum totum impleat orbem*: the meaning of which is, "May it laſt till the owner of it hath extended his ſway over the whole world:" which implies what the French kings have conſtantly aimed at; as well as what the Firſt Conſul, now about to be crowned *emperor* of France, ſtill aims at. This palace is joined to the Thuilleries by a gallery, in which are 180 models of fortreſſes, ſome ſituated in France, and ſome in other countries, executed with the utmoſt accuracy. Here is, or at leaſt was, before the revolution, a valuable collection of paintings, the mint, together with a prodigious quantity of rich tapeſtry hangings, and a collection of ancient arms, among which are thoſe worn by Francis I. at the battle of Pavia. Here alſo a the ci-devant royal academies held their meet ings. (See ACADEMY, N° I, 3; II, 3, 5; VIII, XIII, 9, 11, 12.) 10. *Le Palais Royal*, built b Card. Richelieu, in 1636. It contained picture to the value of four millions of livres, which wer purchaſed by Richelieu, and of which a part be longed to Chriſtina, queen of Sweden. 11. Th *Thuilleries*, ſo called from a tile or brick-kil which ſtood there formerly. Behind it are ple ſant gardens, adorned with fine walks, plante with ever-greens, &c. with beautiful parterres, fine fountains, and a canal. Behind the Thuill ries, on the bank of the river, are pleaſant walk compoſed of 4 rows of lofty elms, to which va crowds of people reſort, as well as to the garden In the palace is a ſpacious and magnificent the tre; and hard by it are the Elyſian fields, and th church of St Roche. 12. *La Place de Louis Grand*, a very beautiful ſquare, in the centre which was an equeſtrian ſtatue of that king, whic was alſo demoliſhed by the democrates. 13. Th Place, or *Square des Victoires*, which is round, a contained a ſtatue of Lewis XIV. of gilt braſs, rected to him by the duke of Fuillade, with this i ſcription, *Viro immortali*. 14. The ci-devant Roy Library in the Rue Vivien, which contained 94.0 printed books, 30,000 MSS. and a prodigious c lection of copperplates and medals. 15. The p riſh church of St Euſtace, which ſtands in t quarter ſo named. 16. The gate of St Denn and 17. The gate of St Martin, both of whi were erected in form of triumphal arches, in h nour of Lewis XIV. 18. *La Greve*, an open pla where public rejoicings were celebrated, and m lefactors executed. 19. The *Hotel de Ville*, a lar building of Gothic architecture, adorned with c lumns of the Corinthian order. 20. The arſe in the quarter of St Paul, conſiſting of many ſp cious buildings; among which are a founde and a houſe for making ſaltpetre. Here is a m quetoon of two barrels, which it is ſaid will pie a thick board at the diſtance of ſix miles; a for diſcerning an object at that diſtance, has a leſcope fixed to the barrel. 21. The *Temple* commandery of the knights of Malta, which gi name to a quarter; and, during the courſe of revolution, has been uſed as a ſtate priſon, inſte of the BASTILE, which was deſtroyed July 1789; but, like the Hydra's head, has been ſ ceeded by numberleſs other Baſtiles. 22. The devant *La Maiſon profeſſe des Jeſuites*, in quarter of St Anthony, in the church of wh the hearts of Lewis XIII. and XIV. are preſerv each in a caſket of gold, ſupported by two an of maſſy ſilver, and as big as the life, hover with expanded wings. In the ſame quarter a fine looking-glaſs manufacture, where above perſons were employed in poliſhing plates caſ St Gobin. In that part of the city called *Univerſity*, the principal places are, 1. The verſity, which was firſt founded by Charles Great. 2. The Gobelins, a houſe where a g number of ingenious artiſts, in various manu tures and handicrafts, were employed by the vernment. The moſt curious tapeſtry of all ſ was made here. 3. The General Hoſpital, a n noble foundation for the poor of the female wh

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where 7000 objects were taken care of and provided for. 4. The ci-devant Royal Phyfic Garden, in which are an immenfe variety of plants and trees. 5. The abbey of St Victor, in which is a public library, containing fome very ancient and fcarce books, feveral curious MSS. and a prodigious collection of maps and copperplates. 6. The College of Phyficians. 7. The Little Chatelet, an old fortrefs, ufed as a prifon. 8. The Rue St Jacques. 9. The Royal College, and that of Lewis the Great. 10. The Abbey of St Genevieve, in which is the marble monument of king Clovis, the fhrine of St Genevieve, a large library, with a cabinet of antiquities and natural curiofities. 11. The ci-devant Royal Obfervatory, a moft ftately edifice, built on the higheft part of the city. 12. The Academy of Surgery, inftituted in 1731. 13. The Convent of Franciſcans, in the quarter of St Andrew, where there were remains of the palace of Julian the Apoſtate, in which Childebert, and fome other kings of the Franks, afterwards reſided. 14. The Theatre. 15. The Convent of Carthufians, in the quarter of Luxemburg, containing fine paintings. 16. The ci-devant palace of Luxemburg, or Orleans, a magnificent ſtructure, containing fine paintings by Rubens, with a noble garden. 17. The Abbey of St Germain des Prez, which contained a very valuable library, the MSS. alone making 3000 volumes: alſo a cabinet of antiquities. 18. The *Hotel des Invalides*, erected by Lewis XIV. in which lame and ſuperannuated officers and ſoldiers were maintained. Theſe buildings take up 17 acres. The chapel is very magnificent. Hard by is the military academy. For the hiſtory of this city, during the late bloody revolution; See REVOLUTION. Paris is 70 miles S. of Rouen, 255 SE. of London, 625 NW. of Vienna, and 630 NE. of Madrid. Lon. 2. 25. E. Lat. 48. 50. N.

(2.) PARIS, a department of France, containing the capital (N° 3.) with its ſuburbs, and a circuit of about 3 miles around it.

(3.) PARIS, a mountain in the iſle of Angleſey, on the coaſt of North Wales, which abounds in copper ore, the bed of which is above 40 feet thick. The leſſees of this mine annually raiſe from 6000 to 7000 tons of merchantable ore, and daily employ above 40 furnaces in ſmelting it. This ore contains a great quantity of ſulphur, which muſt be ſeparated by roaſting before it can be fmelted into copper. Part of the vitriolic acid is diſperſed into the air by the fire; another part attracts and diſſolves ſuch a quantity of the copper, that the water in which the roaſted ore is waſhed (by means of old iron immerſed in it according to the German method) produces great quantities of fine copper, ſo that the proprietors have obtained in one year near 100 tons of the copper precipitated from this water. If this water were afterwards evaporated, it would yield green vitriol or vitriolated iron, at nearly the rate of 100 tons of vitriol for each 100 tons of iron at leaſt; which, at the rate of 3l. Sterling per ton, might produce very good profit to the undertakers, if any ſhould ſettle ſuch a manufacture there.

(6.) PARIS, an iſland on the coaſt of S. Carolina.

(7.) PARIS, a thriving townſhip of New York, in Herkemer county, 6 miles W. of Whiteſtown. It has a congregational church, an academy called HAMILTON, and, in 1796, contained 3,459 citizens, of whom 564 were electors. Iron ore is found near it.

(8.) * PARIS. *n. ſ.* [*aconitum.*] An herb. *Ainſ.*

(9.) PARIS, in botany, HERB PARIS, or TRUE-LOVE, a genus of the trigynia order, belonging to the octandria claſs of plants; and in the natural method ranking under the 11th order, *Sarmentaceæ*. The calyx is tetraphyllous; there are four petals, narrow in proportion; the berry quadrilocular. There is but one ſpecies, growing naturally in woods and ſhady places both in Scotland and England. It hath a ſingle naked ſtem, greeniſh bloſſoms, and bluiſh black berries.—The leaves and berries are ſaid to partake of the properties of opium; and the juice of the berries is uſeful in inflammations of the eyes. Linnæus ſays, that the root will vomit as well as ipecacuanha, but muſt be taken in double the quantity. Goats and ſheep eat the plant; cows, horſes, and ſwine, refuſe it. Though this plant has been reckoned poiſonous, being ranked among the aconites; yet late authors attribute quite other properties to it, eſteeming it a counter-poiſon, and good in malignant and peſtilential fevers.

(10.) PARIS, HERB, OF AMERICA, OR OF CANADA. See TRILLIUM.

(11.) PARIS, MASSACRE OF. See FRANCE, § 41, 42.

(12.) PARIS, PLASTER OF. See PLASTER.

(1.) * PARISH. *n. ſ.* [*parochia*, low Latin; *paroiſſe*, Fr. of the Greek παροικια, *i. e. accolarum conventus, accolatus, ſacra vicinia.*] The particular charge of a ſecular prieſt. Every church is either cathedral, conventual, or parochial: cathedral is that where there is a biſhop ſeated, ſo called a cathedral: conventual conſiſts of regular clerks, profeſſing ſome order of religion, or of a dean and chapter, or other college of ſpiritual men: parochial is that which is inſtituted for ſaying divine ſervice, and adminiſtring the holy ſacraments to the people, dwelling within a certain compaſs of ground near unto it. Our realm was firſt divided into *pariſhes* by Honorius, archbiſhop of Canterbury, in the year 636. *Cowel.*—Dametas came piping and dancing, the merrieſt man in a *pariſh*. *Sidney.*—By the Catholick church is meant no more than the common church, into which all ſuch perſons as belonged to that *pariſh*, in which it was built, were wont to congregate. *Pearſon.*

The tythes, his *pariſh* freely paid, he took;
But never ſu'd, or cur'd with bell or book.
Dryden.

(2.) * PARISH. *adj.* 1. Belonging to the pariſh; having the care of the pariſh.—

A *pariſh* prieſt was of the pilgrim train. *Dryd.*
Not *pariſh* clerk, who call the pſalms ſo clear.
Gay.

—The office of the church is performed by the *pariſh* prieſt, at the time of his interment. *Ayliffe.*—A man, after his natural death, was not capable of the leaſt *pariſh* office. *Mart. Scrib.*—The *pariſh* allowance to poor people is very ſeldom a

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comfortable maintenance. *Law.* 2. Maintained by the parish.—The ghost and the *parish* girl are entire new characters. *Gay.*

(3.) PARISH is otherwise defined the precinct of a parochial church, or a circuit of ground inhabited by people who belong to one church, and are under the particular charge of its minister. The word comes from παροικια, *habitation*; of παρα *near*, and οικος *house*. Du Cange observes, that the name παροικια was anciently given to the whole territory of a bishop, and derives it from *neighbourhood*; because the primitive Christians, not daring to assemble openly in cities, were forced to meet secretly in neighbour houses. In the ancient church there was one large edifice in each city for the people to meet in; and this they called *parochia*, *parish*. But the signification of the word was afterwards enlarged, and meant a diocese, or the jurisdiction of a bishop, consisting of several churches. Du Pin observes, that country parishes had not their origin before the 4th century; but those of cities are more ancient. Alexandria is said to have been divided into parishes. In the early ages of Christianity in this island, parishes were unknown, or at least signified the same that a diocese now does. There was then no appropriation of ecclesiastical dues to any particular church; but every man was at liberty to contribute his tithes to any priest or church he pleased, but he was obliged to do it to some; or if he made no special appropriation, they were paid to the bishop, to distribute them among the clergy, and for other pious purposes. Sir Henry Hobart maintains that parishes were first erected by the council of Lateran, held A. D. 1179. But Mr Selden proves, that the clergy lived in common without any division of parishes, long after the time mentioned by Camden, (A. D. 636.) and it appears from the Saxon laws, that parishes were in being long before the council of Lateran in 1179. The distinction of parishes occurs in the laws of king Edgar, about 970. It seems pretty clear and certain, says judge Blackstone (Com. Vol. I. p. 112.), that the boundaries of parishes were first ascertained by those of a manor or manors; because it very seldom happens that a manor extends itself over more than one parish, though there are often many manors in one parish. The lords, he adds, as Christianity spread, began to build churches upon their own demesnes or wastes, to accommodate their tenants in one or two adjoining lordships; and that they might have divine service regularly performed therein, obliged all their tenants to appropriate their tithes to the maintenance of the one officiating minister, instead of leaving them at liberty to distribute them among the clergy of the diocese in general; and this tract of land, the tithes of which were so appropriated, formed a distinct parish; and this accounts for the frequent intermixture of the parishes one with another. For if a lord had a parcel of land detached from the main of his estate, but not sufficient to form a parish of itself, it was natural for him to endow his newly erected church with the tithes of such lands. Extra-parochial wastes and marsh lands, when improved and drained, are by 17 Geo. II. cap. 37. to be assessed to all parochial rates in the parish next adjoining. Camden reckons 9284 parishes in England; and Chamberlayne makes 9913. They are now generally reckoned about 10,000.

PARISH-CLERK, *n. s.* is a compound sufficiently authorised, but is more properly written in *two words* by Mr Gay. (See PARISH, § 2.) In every parish in England, the parson hath a parish-clerk under him, who is the lowest officer of the church. These were formerly clerks in orders, and their business at first was to officiate at the altar; for which they had a competent maintenance by offerings; but they are now laymen, and have certain fees with the parson on christenings, marriages, burials, &c. besides wages for their maintenance. The law looks upon them as officers for life: and they are chosen by the minister of the parish, unless there is a custom for the parishioners or churchwardens to choose them; in which case the canon cannot abrogate such custom; and when chosen it is to be signified, and they are to be sworn into their office by the archdeacon, for which the court of king's bench will grant a mandamus.

* PARISHIONER. *n. s.* [*paroissien*, Fr. from *parish*.] One that belongs to the parish.—I praise the Lord for you, and so may my *parishioners* for their sons are well tutored by you. *Shak.*—

Hail bishop Valentine; whose day this is,
All the air is thy diocese;
And all the chirping choristers
And other birds are thy *parishioners*. *Donne*

—In the greater out-parishes, many of the *parishioners*, through neglect, do perish. *Graunt.*—I have deposited thirty marks, to be distributed among the poor *parishioners*. *Addison.*

PARISI, ancient Britons, who inhabited the countries now called *Durham*, *Westmoreland*, and *Cumberland*. *Anderson's Royal Geneal.*

PARISIAN, *adj.* Of or belonging to Paris.

PARISIANS, the people of PARIS. See FRANCE § 54; and REVOLUTION.

(1.) PARISII, an ancient people of Gallia Celtica, who inhabited the country about the Sequana and Marona, since called the Isle of France.

(2.) PARISII, an ancient people of Britain, who had the Brigantes on the N. and W. the Germanic sea on the E. and the Coritani on the S.; from whom they were separated by the Humber. They inhabited the district now called HOLDERNESS in Yorkshire.

PARISIORUM CIVITAS. See LUTETIA.

(1.) PARISOT, John Patroclus, a French writer of the 17th century, who published a work entitled *La Foi devoilee, par la Raison*, which is censed the French clergy so much, that they obtained an order for its suppression.

(2.) PARISOT, a town of France, in the dep. of Aveiron; 10½ miles SW. of Villefranch, and 2 W. of Sauveterre.

PARISUS, a river of Pannonia, which runs into the Danube. *Strabo.*

PARITEE HOTUN, a town of Chinese Tartary, 445 miles ENE. of Peking. Lon. 143. 2. E. Ferro. Lat. 42. 28. N.

* PARITOUR. *n. s.* [from *apparitor*.] A beadle; a summoner of the courts of civil law.—You shall be summoned by an host of *paritours*; you shall be sentenced in the spiritual court. *Dryden*

* PARITY

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* PARITY. *n. ſ.* [*parité*, Fr. *paritas*, Latin.] Equality; reſemblance.—We may here juſtly tax the diſhoneſty and ſhamefulneſs of the mouths, who have upbraided us with the opinion of a certain ſtoical *parity* of ſins. *Hall.*—That Chriſt or his apoſtles ever commanded to ſet up ſuch a *parity* of preſbyters, and in ſuch a way as thoſe Scots endeavour, I think is not very diſputable. *King Charles.*—Survey the total ſet of animals, and we may, in their legs or organs of progreſſion, obſerve an equality of length and *parity* of numeration. *Brown.*—Thoſe accidental occurrences, which excited Socrates to the diſcovery of ſuch an invention, might fall in with that man that is of a perfect *parity* with Socrates. *Hale.*—Their agreement in eſſential characters, makes rather an identity than a *parity*. *Glanville.*—Women could not live in that *parity* and equality of expence with their huſbands, as now they do. *Graunt.*—By an exact *parity* of reaſon, we may argue, if a man has no ſenſe of thoſe kindneſſes that paſs upon him, from one like himſelf, whom he ſees and knows, how much leſs ſhall his heart be affected with a grateful ſenſe of his favours, whom he converſes with only by imperfect ſpeculations, by the diſcourſes of reaſon, or the diſcoveries of faith? *South.*

PARIUM, in ancient geography, a noble city of Myſia Minor, with a port on the Propontis; called *Adraſtia* by Homer, according to Pliny; but Strabo diſtinguiſhes them: according to others, it is the PAESTOS of Homer. It was the birthplace of Neoptolemus, ſurnamed *Gloſſographus*. *(Strabo.)* Here ſtood a Cupid, equal in exquiſite workmanſhip to the Cnidian Venus. It is now called *Camanar*.

(1.) * PARK. *n. ſ.* [*pearruc*, Sax. *parc*, Fr.] A piece of ground incloſed and ſtored with wild beaſts of chaſe, which a man may have by preſcription or the king's grant. Manwood, in his foreſt-law, defines it thus: a park is a place for privilege for wild beaſts of venery, and alſo for other wild beaſts that are beaſts of the foreſt and of the chaſe: and thoſe wild beaſts are to have a firm peace and protection there, ſo that no man may hunt or chaſe them within the park, without leave of the owner: a park is of another nature, than either a chaſe or a warren; for a park muſt be incloſed, and may not lie open; if it does, it is a good cauſe of ſeizure into the king's hands: and the owner cannot have action againſt ſuch as hunt in his park, if it lies open. *Cowel.*—We have *parks* and incloſures of all ſorts of beaſts and birds, which we uſe not only for view or rareneſs, but likewiſe for diſſections and trials. *Bacon.*

(2.) PARK. See CHASE and FOREST. No man can erect a park without licence under the broad ſeal; for the common law does not encourage matters of pleaſure, which brings no profit to the commonwealth. But there may be a park in reputation erected without any lawful warrant; and the owner may bring his action againſt perſons killing his deer. To a park 3 things are required. 1. A grant thereof. 2. Incloſures by pale, wall, or hedge. 3. Beaſts of a park; ſuch as the buck, doe, &c. And where all the deer are deſtroyed, it ſhall no more be counted a park; for a park conſiſts of vert, veniſon, and incloſure: and if it is determined in any of them, it is a total diſparking. Parks as well as chaſes are ſubject to the common law, and are not governed by the foreſt laws.

(3.) PARK, as connected with gardening. See FARM, § IV, 1—4: and GARDENING, § II, 1—4. The moſt perfect compoſition of a place that can be imagined, conſiſts of a garden opening into a park, with a ſhort walk through the latter to a farm, and ways along its glades to ridings in the country; but to the farm and the ridings the park is no more than a paſſage; and its woods and its buildings are but circumſtances in their views; its ſcenes can be communicated only to the garden. The affinity of the two ſubjects is ſo cloſe, that it would be difficult to draw the exact line of ſeparation between them. Gardens have lately encroached both in extent and in ſtyle on the character of a park; but ſtill there are ſcenes in the one which are out of reach of the other. The ſmall ſequeſtered ſpots which are agreeable in a garden would be trivial in a park; and the ſpacious lawns which are among the nobleſt features of the latter, would in the former fatigue by their want of variety; even ſuch as, being of a moderate extent, may be admitted into either, will ſeem bare and naked, if not broken in the one; and loſe much of their greatneſs, if broken in the other. The proportion of a part to the whole is a meaſure of its dimenſions: it often determines the proper ſize for an object, as well as the ſpace fit to be allotted to a ſcene; and regulates the ſtyle which ought to be aſſigned to either. But whatever diſtinctions the extent may occaſion between a park and a garden, a ſtate of highly cultivated nature is conſiſtent with each of their characters; and may in both be of the ſame kind, though in different degrees. The excellencies both of a park and a garden are happily blended, at Hagley, near Stourbridge in Worceſterſhire, the ſeat of Lord Lyttelton, where the ſcenes are equally elegant and noble. It is ſeated in the midſt of a pleaſant and fertile country, between the Clent and Witchberry hills.

(4.) PARK OF ARTILLERY. See ARTILLERY, N° 5, § 3.

(5.) PARK OF PROVISIONS, in military affairs, the place where the ſutlers pitch their tent in the rear, and ſell their proviſions to the ſoldiers. Likewiſe that place where the bread-waggons are drawn up, and where the troops receive their ammunition bread, being the ſtore of the army.

* *To* PARK. *v. a.* [from the noun.] To incloſe as in a park.—

How are we *park'd*, and bounded in a pale
A little herd of England's tim'rous deer,
Maz'd with a yelping kennel of French curs. *Shak.*

PARKANY, a town of Hungary, at the conflux of the Danube and the Gran; 2 miles N. of Gran, and 14 E. of Comorn.

(1.) PARKER, Henry, Lord Morley, a noble author, who flouriſhed in the reign of Henry VIII. and wrote ſeveral works, a liſt of which may be ſeen in Mr Walpole's (or Lord Orford's) Catalogue of Royal and Noble Authors, vol. 1. He was one of the barons, who ſigned the memorable letter to Pope Clement VII. threatening him with the loſs of his ſupremacy in England, unleſs

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he proceeded to diſpatch the king's divorce againſt Q. Catherine.

(2.) PARKER, Matthew, the 2d Proteſtant archbiſhop of Canterbury, was born at Norwich in 1504, the 19th of Henry VII. His father, who was in trade, died when he was 12 years old; but his mother took care of his education, and at the age of 17 ſent him to Corpus-Chriſti college in Cambridge, where, in 1523, he took his degree of A. B. In 1527 he was ordained, created A. M. and choſen fellow. In 1533 or 1534 he was made chaplain to Q. Anne Boleyn, who obtained for him the deanry of Stoke-Clare in Suffolk, where he founded a grammar-ſchool. After her death, Henry made him his own chaplain, and in 1541 prebendary of Ely. In 1544, he was elected maſter of Corpus-Chriſti college, and in 1555 vice-chancellor of the univerſity. In 1547 he loſt the deanery of Stoke, by the diſſolution of that college; and married the daughter of Robert Harleſtone, a Norfolk gentleman. In 1552 he was nominated, by Edward VI. dean of Lincoln, which enabled him to live in great affluence; but Mary I. was hardly ſeated on the throne before he was deprived of every thing, and obliged to live in obſcurity, often changing his place of abode to avoid the fate of the other reformers. Q. Elizabeth ſucceeded in 1558; and in 1559 Dr Parker, from indigence and obſcurity, was at once raiſed to the ſee of Canterbury; an honour which he neither ſolicited nor deſired. He was conſecrated Dec. 17, 1559, in Lambeth chapel, by the Bps. of Chicheſter, Exeter, and Bedford, and not in a tavern, as the Romaniſts pretended. In this high ſtation he acted with ſpirit and propriety. He viſited his cathedral and dioceſe in 1560, 1565, 1570, and 1573. He repaired and beautified his palaces at Lambeth and Canterbury, at an expence of above 1400l. ſterling, which is at leaſt equal to ten times the ſum now. He gave ſeveral of the moſt magnificent entertainments which are on record, and regaled not only the rich, but fed plentifully the poor. Queen Elizabeth was preſent at one of theſe. He founded ſeveral ſcholarſhips in Corpus-Chriſti college in Cambridge, and gave large preſents of plate to that and other colleges in this univerſity. He gave 100 volumes to the public library. He likewiſe founded a free ſchool at Rochdale in Lancaſhire. He took care to have the ſees filled with pious and learned men; and, conſidering the great want of bibles in many places, he, with the aſſiſtance of other learned men, improved the Engliſh tranſlation, had it printed on a large paper, and diſperſed through the kingdom. This worthy prelate died in 1575, aged 72, and was buried in his own chapel at Lambeth. He was pious without affectation or auſterity, cheerful and contented in the midſt of adverſity, moderate in the height of power, and beneficent beyond example. He wrote ſeveral books; and publiſhed four of our beſt hiſtorians; *Matthew of Weſtminſter*, *Matthew Paris*, *Aſſer's Life of King Alfred*, and *Tho. Walſingham*. He alſo tranſlated the Pſalter. This verſion was printed, but without a name, which led the learned Wood to attribute them to an obſcure poet of the name of Keeper.

(3.) PARKER, John, an eminent lawyer of the 17th century, who practiſed at Northampton about 1640. He was educated in one of the Temples at London; and, being afterwards againſt the king, was made a member of the high court of juſtice in 1649, where he gave ſentence againſt the three lords, Capel, Holland, and Hamilton, who were beheaded. During Cromwell's uſurpation, he was made an aſſiſtant committee man for his county. In 1630 he publiſhed a book in defence of the new government, as a commonwealth, without a king or houſe of lords. In June 1655, when Cromwell was declared protector, he was appointed a commiſſioner for removing obſtructions at Worceſter-houſe in the Strand near London, and was ſworn ſerjeant at law next day. In Jan. 1659, he was appointed one of the barons of the exchequer by the Rump Parliament; but, upon a complaint, was diſplaced. However he was again regularly made ſerjeant at law, on the recommendation of Chancellor Hyde, at the firſt call after the reſtoration.

(4.) PARKER, Samuel, D. D. an Engliſh clergyman, ſon of the preceding, who, by temporizing became Bp. of Oxford. He was born Sept. 1640 at Northampton, and educated among the Puritans in Northampton; whence, being fit for the univerſity, he was ſent to Wadham college in Oxford, and admitted, in 1659, under a preſbyterian tutor. Here he led a ſtrict and religious life, and was eſteemed one of the moſt precious young men in the univerſity. He took the degree of A. B. Feb. 28, 1659-60. Upon the reſtoration he heſitated what ſide to take; but continuing publicly to ſpeak againſt Epiſcopacy, he was much diſcountenanced by the new warden Dr Blandford who had been appointed to that office upon the dawn of the reſtoration in 1659. Upon this he removed to Trinity-college, where, by the advice of Dr Ralph Ruthwell, then a ſenior fellow of that ſociety, he was reſcued from the prejudices of his education, which he publicly avowed in print. He then became a zealous Anti-puritan and for many years acted the part of what was then called *a true ſon of the church*. In this temper, having taken the degree of M. A. in 1663, he entered into holy orders, went to London, and became chaplain to a nobleman; continuing to diſplay his wit upon his old friends the Preſbyterians, Independents, &c. In 1665, he publiſhed ſome Philoſophical Eſſays, and was elected F. R. S. Theſe Eſſays he dedicated to Sheldon Abp. of Canterbury, who became his patron; and in 1667 made him his chaplain. Being thus in the road of preferment, he left Oxford, and reſided at Lambeth, under his patron; who, in 1670, made him archdeacon of Canterbury. In Nov. 1670, he joined the train of William prince of Orange, when he viſited Cambridge, and had the degree of D. D. conferred upon him there. In Nov. 1672, he was inſtalled a prebendary of Canterbury; and was made rector of Ickham and Chatham in Kent by the archbiſhop. He was very obſequious to the court during the reign of Charles II. and upon the acceſſion of James II. he continued the ſame ſervile complaiſance; and ſoon reaped the fruits of it in the biſhopric of Oxford, to which he was appointed by James II. in 1686, being allowed to hold the archdeaconry of Canterbury in commen-

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dam. He was likewiſe made a privy counſellor, and by a royal mandamus preſident of Magdalen College in Oxford. Theſe favours, however, were the price of his religion, which he ſcrupled not to ſacrifice to his ambition. His authority in his dioceſe was very inſignificant. At laſt falling into contempt, trouble of mind threw him into a diſtemper, of which he died unlamented, at Magdalen College, March 20, 1687. He ſent, however, a Diſcourſe to James, perſuading him to embrace the Proteſtant religion, with a letter to the ſame purpoſe, which was printed at London in 1690, 4to. He wrote ſeveral pieces, in all which Burnet allows that there was an entertaining livelineſs; though "neither grave nor correct."

(5, 6.) PARKER, Samuel, ſon of the preceding was an excellent ſcholar, and of ſingular modeſty. He married a bookſeller's daughter at Oxford, where he reſided with a numerous family; to ſupport which, he publiſhed ſome books, with a modeſt *Vindication of his Father*. One of his ſons is now, or was lately, a bookſeller at Oxford.

7.) * PARKER. *n. ſ.* [from *park*.] A park keeper. *Ainſ.*

PARKER'S BAY, a bay on the SE. coaſt of Jamaica.

(1.) PARKER'S ISLAND, an iſland of the United States, on the coaſt of Maine, in Lincoln county, ſeparated by a narrow ſtrait from Arroſick iſland on the N. It is named from John Parker, who purchaſed it from the natives in 1650; and part of it is ſtill poſſeſſed by his deſcendants.

(2.) PARKER'S ISLAND, an iſland on the Cheſapeak, near the coaſt of Maryland, 15 miles S. of Annapolis.

PARKER'S RIVER, a river of Maſſachuſetts, which riſes in Eſſex county, and, after running ſeveral miles, falls into the Sound between Plumb Iſland and the main land. It is navigable about 2 miles from its mouth, where a bridge, built in 1758, croſſes it, 870 feet long, and 26 broad; conſiſting of ſtone piers, with eight wooden arches.

PARKGATE, a ſea port town of Cheſhire, on the NE. coaſt of the Dee, at its mouth, 12 miles NW. of Cheſter, and 193 NNW. of London.

PARKHURST, John, a learned divine and lexicographer, born at London; and educated at Clare Hall, Cambridge; of which he was admitted fellow in 1751, and took his degrees of A.B. and A.M. He ſettled at Epſom in Surry; was the intimate friend of Bp. Horne, and like him, adopted the opinions of Hutchinſon. He publiſhed, 1. A Greek and Engliſh Lexicon, 4to. 2. A Hebrew and Engliſh Lexicon, 4to.; both of which are very uſeful: 3. An Anſwer to Dr Prieſtly on the pre-exiſtence of Chriſt. He died in 1797.

PARKINSON, John, an eminent Engliſh botaniſt, born in 1567. He was the firſt who ſingly described and figured the ſubjects of the flower-garden. His *Theatrum Botanicum* contained a more copious hiſtory of medicinal plants than any former publication; but the title of his firſt work indicated a pun upon his name; viz. *Paradiſi in Sole Paradiſus Terreſtrius*: i. e. *Park-in-Sun's* Terreſtrial Paradiſe.

PARKINSONIA, ſo called in honour of the Engliſh botaniſt *Parkinſon*; a genus of the monogynia order, belonging to the decandria claſs of plants; and in the natural method it ranks under the 33d order, *Lomentaceæ*. The calyx is quinquefid; there are 5 petals, all oval except the loweſt, which is reniform; there is no ſtyle; the legumen moniliform, or like ſtrong beads. We know but one ſpecies, which is very common in the Spaniſh Weſt Indies, and has lately been introduced into the Engliſh ſettlements, for the beauty and ſweetneſs of its flowers. In the countries where it grows naturally, it riſes to a tree of 20 or more feet high, and bears long ſlender bunches of yellow flowers; which have a moſt agreeable ſweet ſcent.

(1.) * PARKLEAVES. *n. ſ.* An herb. *Ainſw.*

(2.) PARK-LEAVES. See HYPERICUM, N° 1.

PARKSTEIN, a town of Bavaria, in Saltzbach; 16 miles N. of Nabburg, and 17 NE. of Saltzbach.

PARLASCA, a town of the Italian republic, in the dep. of Olona, diſtrict and late duchy of Milan, on the E. bank of the Lake Como.

* PARLE. *n. ſ.* [from *parler*, Fr.] Converſation; talk; oral treaty; oral diſcuſſion of any thing.—

Of all the gentlemen,
That every day with *parle* encounter me,
In thy opinion which is worthieſt love? *Shak.*

Our trumpet call'd you to this general *parle*. *Shak.*

The biſhop, by a *parle*, is, with a ſhow
Of combination, cunningly betray'd. *Daniel.*

I hate this *parle*; 'tis tame: if we muſt meet,
Give me my arms. *Rowe's Amb. Step-mother.*

(1.) * PARLEY. *n. ſ.* [from the verb.] Oral treaty; talk; conference; diſcuſſion by word of mouth.—Seek rather by *parley* to recover them, than by the ſword. *Sid.*—

Well, by my will, we ſhall admit no *parley*;
A rotten caſe abides no handling. *Shak.*

Summon a *parley*, we will talk with him. *Shak.*

—Let us reſolve never to *parley* with our luſts. *Calamy.*—*Parley* and holding intelligence with guilt in the moſt trivial things, he pronounced as treaſon to ourſelves, as well as unto God. *Fell.*—

'Twas beyond *parley* when the ſiege was laid. *Dryd.*

We yield on *parley*, but are ſtorm'd in vain. *Dryd.*

Yet when ſome better fated youth
Shall with his am'rous *parley* move thee,
Reflect one moment on his truth,
Who, dying thus, perſiſts to love thee. *Prior.*

(2.) *A* PARLEY, in war, is a conference with an enemy. Hence, to beat or ſound a parley, is to give a ſignal for holding ſuch a conference by beat of drum, or ſound of trumpet.

* *To* PARLEY. *v. n.* [from *parler*, French.] To treat by word of mouth; to talk; to diſcuſs any thing orally. It is much uſed in war for a meeting of enemies to talk.—A Turk defired the captain to ſend ſome, with whom they might more conveniently *parley*. *Knolle's Hiſt.*—He *parleys* with her a while, as imagining ſhe would adviſe him to proceed. *Broome.*

(1.) * PARLIAMENT. *n. ſ.* [*parliamentum*, low Latin; *parlement*, French.] In England, is the aſſembly of the king and three eſtates of the realm; namely

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namely, the lords ſpiritual, the lords temporal, and commons, for the debating of matters touching the commonwealth, eſpecially the making and correcting of laws; which aſſembly or court is, of all others, the higheſt, and of greateſt authority. *Cowel.*—

The king is fled to London,
To call a preſent court of *parliament*. *Shak.*
Far be the thought of this from Henry's heart,
To make a ſhambles of the *parliament* houſe. *Shak.*

—The true uſe of *parliaments* is very excellent. *Bacon.*—I thought the right way of *parliaments* the moſt ſafe for my crown. *King Charles.*—Theſe are mob readers: if Virgil and Martial, ſtood for *parliament* men, we know who would carry it. *Dryd.*

(2.) *The* PARLIAMENT is the grand aſſembly of the three ſtates of this kingdom, ſummoned together by the king's authority, to conſider of matters relating to the public welfare, particularly to enact and repeal laws.

(3.) PARLIAMENT, ANTIQUITY OF. The original or firſt inſtitution of parliament lies ſo far hidden in the dark ages of antiquity, that the tracing of it out is equally difficult and uncertain. The word *parliament* is, comparatively, of modern date; derived from the French, *parler*, and ſignifying *the place where they met and ſpoke, or conferred together*. It was firſt applied to general aſſemblies of the ſtates under Lewis VII. in France, about the middle of the 12th century. But it is certain, that, long before the Norman conqueſt, all matters of importance were debated and ſettled in the great councils of the realm; A practice which ſeems to have been univerſal among the northern nations, particularly the Germans; and carried by them into all the countries of Europe, which they over-ran at the diſſolution of the Roman empire. Relics of this conſtitution, under various modifications and changes, are ſtill to be met with in the diets of Poland, Germany, and Sweden, and formerly in the aſſembly of the ſtates in France: for what was there lately called the *parliament*, was only the ſupreme court of juſtice, conſiſting of the peers, certain dignified eccleſiaſtics, and judges; which was neither in practice, nor ſuppoſed to be in theory, a general council of the realm.

(4.) PARLIAMENT, ANTIQUITY OF, IN ENGLAND. In England, this general council hath been held immemorially, under the ſeveral names of *micel ſynoth*, or *great council*; *michel gemote*, or *great meeting*; and more frequently WITTENAGEMOTE, or, *the meeting of wiſemen*. It was alſo ſtyled in Latin, *commune concilium regni*, *magnum concilium regis*, *curia magna*, *conventus magnatum vel procerum aſſiſa generalis*, and ſometimes *communitas regni Angliæ*. We have inſtances of its meeting to order the affairs of the kingdom, to make new laws, and to amend the old, or, as Fleta expreſſes it, *novis injuriis emerſis nova conſtituere remedia*, ſo early as the reign of Ina king of the Weſt Saxons, Offa king of the Mercians, and Ethelbert king of Kent, in the ſeveral kingdoms of the heptarchy. And after their union, the Mirrour informs us, that king Alfred ordained for a perpetual uſage, that theſe councils ſhould meet twice in the year, or oftener, if need be, to treat of the government of God's people; how they ſhould keep themſelves from ſin, ſhould live in quiet, and ſhould receive right." The ſubſequent Saxon and Daniſh monarchs held frequent councils of this ſort, as appears from their codes of laws; the titles whereof uſually ſpeak them to be enacted, either by the king with the advice of his *wittena-gemote*, as *Hæ ſunt inſtituta, quæ Edgarus rex conſilio ſapientium ſuorum inſtituit*: or to be enacted by thoſe ſages with the advice of the king; as, *Hæc ſunt judicia, quæ ſapientes conſilio regis Ethelſtani inſtituerunt*; or laſtly, to be enacted by them both together, as *Hæ ſunt, inſtitutiones quas rex Edmundus et epiſcopi ſui cum ſapientibus ſuis inſtituerunt*. Theſe great councils were alſo occaſionally held under the firſt princes of the Norman line. Glanvil, who writes in the reign of Henry II. ſpeaking of the particular amount of an amercement in the ſheriff's court, ſays, it never yet had been aſcertained by the general aſſize or aſſembly, but was left to the cuſtom of particular counties. Here the general aſſize is ſpoken of as a meeting well known, and ſtatutes or deciſions are put in a manifeſt contradiſtinction to cuſtom, or the common law. And in Edward III's time, an act of parliament, made in the reign of William I. was pleaded in the caſe of the abbey of St Edmund's-bury, and judicially allowed by the court. Hence it indiſputably appears, that parliaments, or general councils, are coeval with the kingdom itſelf. How thoſe parliaments were conſtituted and compoſed, has been a matter of great diſpute among our learned antiquarians; whether the commons were ſummoned at all; or, at what period they began to form a diſtinct aſſembly. But waving theſe controverſies, it is generally agreed, that, in the main, the conſtitution of parliament, as it now ſtands, was marked out ſo long ago as the 17th year of King John, A. D. 1215, in the great charter granted by that prince; wherein he promiſes to ſummon the arch-biſhops, biſhops, abbots, earls, and greater barons, perſonally; and all other tenants in chief under the crown, by the ſheriff and bailiffs; to meet at a certain place, with 40 days notice, and aſſeſs aids and ſcutages when neceſſary. (See MAGNA CHARTA.) And this conſtitution has been ſubſiſted in fact at leaſt from 1266, 49 Henry III. there being ſtill extant writs of that date, to ſummon knights, citizens, and burgeſſes, to parliament. We proceed therefore, to inquire, what in conſiſts this conſtitution of parliament, as it now ſtands, and has ſtood, for at leaſt 500 years. 1. As to the manner and time of its aſſembling. 2. Its conſtituent parts: 3. The laws and cuſtoms relating to parliament: 4. The methods of proceeding, and of making ſtatutes, in both houſes. And, 5. The manner of the parliament's adjournment, prorogation, and diſſolution.

(5.) PARLIAMENT, ASSEMBLING OF. I. A parliament is regularly ſummoned by the king's writ or letter, iſſued out of chancery by advice of the privy-council, at leaſt 40 days before it be to ſit. It is a branch of the royal prerogative, that no parliament can be convened by its own authority, or by the authority of any, except the king alone. And this prerogative is founded upon this good reaſon. For, ſuppoſing it had a right

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meet ſpontaneouſly, without being called together, it is impoſſible to conceive that all the members, of each of the houſes, would agree unanimouſly upon the proper time and place of meeting: and if half of the members met, and half abſented themſelves, who ſhall determine which is really the legiſlative body, the part aſſembled, or that which ſtays away? It is therefore neceſſary, that the parliament ſhould be called together at a determinate time and place; and, highly becoming its dignity and independence, that it ſhould be called together by none but one of its own conſtituent parts: and, of the three conſtituent parts, this office can only appertain to the king; as he is a ſingle perſon, whoſe will may be uniform and ſteady; the firſt perſon in the nation, being ſuperior to both houſes in dignity; and the only branch of the legiſlature that has a ſeparate exiſtence, and is capable of performing any act at a time when no parliament is in being. Nor is it any exception to this rule, that by ſome modern ſtatutes, on the demiſe of a king or queen, if there be then no parliament in being, the laſt parliament revives, and is to ſit again for ſix months, unleſs diſſolved by the ſucceſſor: for this revived parliament muſt have been originally ſummoned by the crown. It is true, that the convention parliament which reſtored King Charles II. met above a month before his return; the lords by their own authority, and the commons in purſuance of writs iſſued in the name of the keepers of the liberty of England by authority of parliament; and that the ſaid parliament ſat till the 29th of December, full 7 months after the reſtoration; and enacted many laws, ſeveral of which are ſtill in force. But this was for the neceſſity of the thing, which ſuperſedes all law; for if they had not ſo met, it was morally impoſſible that the kingdom ſhould have been ſettled in peace. And the firſt thing done after the king's return was, to paſs an act declaring this to be a good parliament, notwithſtanding the defect of the king's writ. So that as the royal prerogative was chiefly wounded by their ſo meeting, and as the king himſelf, who alone had a right to object, conſented to wave the objection, this cannot be drawn into an example in prejudice of the rights of the crown. Beſides, it was at that time a great doubt among the lawyers, whether even this healing act made it a good parliament, and held by very many in the negative; though it ſeems to have been too nice a ſcruple. And yet, out of abundant caution, it was thought neceſſary to confirm its acts in the next parliament by ſtat. 13 Car. II. c. 7. & c. 14. It is likewiſe true, at the time of the REVOLUTION, A. D. 1688, the lords and commons by their own authority, and upon the ſummons of the prince of Orange, (afterwards K. William III.) met in a convention, and therein diſpoſed of the crown and kingdom. But this aſſembling was upon a like principle of neceſſity as at the Reſtoration; that is, upon a full perſuaſion that King James II. had abdicated the government, and that the throne was thereby vacant: which ſuppoſition of the individual members was confirmed by their concurrent reſolution, when they actually came together. And, in ſuch a caſe as the palpable vacancy of a throne, it follows *ex neceſſitate rei*, that the form of the royal writs muſt be laid aſide, otherwiſe no parliament can ever meet again. For let us put another poſſible caſe, and ſuppoſe, for the ſake of argument, that the whole royal line ſhould at any time fail, and become extinct, which would indiſputably vacate the throne: in this ſituation it ſeems reaſonable to preſume, that the body of the nation, conſiſting of lords and commons, would have a right to meet and ſettle the government; otherwiſe there muſt be no government at all. And upon this and no other principle did the convention in 1688 aſſemble. The vacancy of the throne was precedent to their meeting without any royal ſummons, not a conſequence of it. They did not aſſemble without writ, and then make the throne vacant; but the throne being previouſly vacant by the king's abdication, they aſſembled without writ, as they muſt do if they aſſembled at all. Had the throne been full, their meeting would not have been regular; but, as it was empty, ſuch meeting became abſolutely neceſſary. And accordingly it is declared by ſtatute, 1 W. & M. ſt. 1. c. 1. that this convention was really the two houſes of parliament, notwithſtanding the want of writs or other defects of form. So that, notwithſtanding theſe two capital exceptions, which were juſtifiable only on a principle of neceſſity (and each of which, by the way, induced a revolution in the government), the rule laid down is in general certain, that the king only can convoke a parliament. And this, by the ancient ſtatutes of the realm, he is bound to do "every year, or oftener if need be." Not that he is, or ever was, obliged by theſe ſtatutes to call a new parliament every year; but only to permit a parliament annually for the redreſs of grievances, and diſpatch of buſineſs, *if need be*. Theſe laſt words are ſo looſe and vague, that ſuch of our monarchs as were inclined to govern without parliaments, neglected the convoking them, ſometimes for a very conſiderable period, under pretence that there was no need of them. But, to remedy this, by ſtat. 16 Car. II. c. 1. it is enacted, that the ſitting and holding of parliaments ſhall not be intermitted above 3 years at the moſt. And by ſtat. 1 W. & M. ſt. 2. c. 2. it is declared to be one of the rights of the people, that for redreſs of all grievances, and for the amending, ſtrengthening, and preſerving, the laws, parliaments ought to be held frequently. And this indefinite frequency is again reduced to a certainty by ſtat. 6 W. & M. c. 2., which enacts, as the ſtatute of Charles II. had done before, that the new parliament ſhall be called within 3 years after the determination of the former.

(6.) PARLIAMENT, CONSTITUENT PARTS OF. Theſe are the king's majeſty, ſitting there in his royal political capacity, and the three eſtates of the realm; the lords ſpiritual, the lords temporal (who ſit together with the king in one houſe), and the commons, who ſit by themſelves in another. And the king and theſe three eſtates together form the great corporation or body politic of the kingdom, of which the king is ſaid to be *caput, principium, et finis*. For upon their coming together the king meets them, either in perſon or by repreſentation; without which there can be no beginning of a parliament; and he alſo has alone the power of diſſolving them. It his highly neceſſary

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fary for preſerving the balance of the conſtitution, that the executive power ſhould be a branch, though not the whole, of the legiſlature. The total union of them, we have ſeen, would be productive of tyranny; the total disjunction of them, for the preſent, would in the end produce the ſame effects, by cauſing that union againſt which it ſeems to provide. The legiſlature would ſoon become tyrannical, by making continual encroachments, and gradually aſſuming to itſelf the rights of the executive power. Thus the long parliament of Charles I. while it acted in a conſtitutional manner, with the royal concurrence, redreſſed many heavy grievances and eſtabliſhed many ſalutary laws. But when the two houſes aſſumed the power of legiſlation, in excluſion of the royal authority, they ſoon after aſſumed likewiſe the reins of adminiſtration; and, in conſequence of theſe united powers, overturned both church and ſtate, and eſtabliſhed a worſe oppreſſion than any they pretended to remedy. To hinder therefore any ſuch encroachments, the king is himſelf a part of the parliament; and as this is the reaſon of his being ſo, very properly therefore the ſhare of legiſlation which the conſtitution has placed in the crown, conſiſts in the power of rejecting, rather than reſolving; this being ſufficient to anſwer the end propoſed. For we may apply to the *royal negative*, in this inſtance, what Cicero obſerves of the negative of the Roman tribunes, that the crown has not any power of doing wrong, but merely of preventing wrong from being done. The crown cannot begin of itſelf any alterations in the preſent eſtabliſhed law; but it may approve or diſapprove of the alterations ſuggeſted and conſented to by the two houſes. The legiſlature therefore cannot abridge the executive power of any rights which it now has by law, without its own conſent; ſince the law muſt perpetually ſtand as it now does, unleſs all the powers will agree to alter it. And herein indeed conſiſts the true excellence of the Britiſh government, that all the parts of it form a mutual check upon each other. In the legiſlature, the people are a check upon the nobility, and the nobility a check upon the people, by the mutual privilege of rejecting what the other has reſolved; while the king is a check upon both, which preſerves the executive power from encroachments. And this very executive power is again checked and kept within due bounds by the two houſes, through the privilege they have of inquiring into, impeaching, and puniſhing the conduct (not indeed of the king, which would deſtroy his conſtitutional independence; but which is more beneficial to the public) of his evil and pernicious counſellors. Thus every branch of our civil polity ſupports and is ſupported, regulates and is regulated, by the reſt: for the two houſes naturally drawing in two directions of oppoſite intereſt, and the prerogative in another ſtill different from them both, they mutually keep each other from exceeding their proper limits; while the whole is prevented from ſeparation, and artificially connected together by the mixed nature of the crown, which is a part of the legiſlative, and the ſole executive magiſtrate. Like three diſtinct powers in mechanics, they jointly impel the machine of government in a direction different from what either, acting by itſel would have done; but at the ſame time in a d rection partaking of each, and formed out of al a direction which conſtitutes the true line of t liberty and happineſs of the community. See t articles KING, LORDS, and COMMONS.

(7.) PARLIAMENT, LAWS, CUSTOMS AND PO ER OF. The power and juriſdiction of parliame ſays Sir Edward Coke, is ſo tranſcendent and a ſolute, that it cannot be confined either for cau or perſons within any bounds. And of this hi court he adds, it may be truly ſaid, *Si antiqui tem ſpectes, eſt vetuſtiſſima; ſi dignitatem, eſt ho ratiſſima; ſi juriſdictionem, eſt capaciſſima.* It h ſovereign and uncontrollable authority in maki confirming, enlarging, reſtraining, abrogating, pealing, reviving, and expounding of laws, c cerning matters of all poſſible denominations, eccleſiaſtical or temporal, civil, military, maritir or criminal: this being the place where that ab lute deſpotic power, which muſt in all gove ments reſide ſomewhere, is entruſted by the c ſtitution of theſe kingdoms. All miſchiefs a grievances, operations and remedies, that tra cend the ordinary courſe of the laws, are wit the reach of this extraordinary tribunal. It regulate or new-model the ſucceſſion to the cro as was done in the reigns of Henry VIII. and W liam III. It can alter the eſtabliſhed religion the land; as was done in a variety of inſtance the reigns of king Henry VIII. and his three c dren. It can change and create afreſh even conſtitution of the kingdom and of parliam themſelves; as was done by the act of union, the ſeveral ſtatues for triennial and ſeptennial e tions. It can, in ſhort, do every thing that is not turally impoſſible; and therefore ſome have ſcrupled to call its power, by a figure rather bold, the *omnipotence of parliament*. True i that what the parliament doth, no authority u earth can undo. So that it is a matter mo ſential to the liberties of this kingdom, that members be delegated to this important truſ are moſt eminent for their probity, their fortit and knowledge; for it was a known apophth of the great lord treaſurer Burleigh, "That land could never be ruined but by a parliame and, as Sir Matthew Hale obſerves, this being higheſt and greateſt court, over which none c can have juriſdiction in the kingdom, if by means a miſgovernment ſhould anyway fall u it, the ſubjects of this kingdom are left wit all manner of remedy. Mr Locke, and other t retical writers, have held, that "there rem ſtill inherent in the people a ſupreme power t move or alter the legiſlature, when they find legiſlature act contrary to the truſt repoſ them; for when ſuch truſt is abuſed, it is the forfeited, and devolves to thoſe who gave But however juſt this concluſion may be in th we cannot adopt it, nor argue from it, under diſpenſation of government at preſent actuall iſting. For this devolution of power, to the ple at large, includes in it a diſſolution of whole form of government eſtabliſhed by that ple; reduces all the members to their ori ſtate of equality; and by annihilating the reign power, repeals all poſitive laws whatſ

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before enacted. No human laws will therefore suppose a case, which at once must destroy all law, and compel men to build afresh upon a new foundation; nor will they make provision for so desperate an event, as must render all legal provisions ineffectual. So long therefore as the English constitution lasts, we may venture to affirm, that the power of parliament is absolute and without control. To prevent the mischiefs that might arise, by placing this extensive authority in hands either incapable or improper to manage it, it is provided by the custom and law of parliament, that no one shall sit or vote in either house, unless he be 21 years of age. This is also expressly declared by stat. 7 and 8 W. III. c. 25: yet with regard to the house of commons, doubts have arisen from some contradictory adjudications, whether or not a minor was incapacitated from sitting in that house. It is also enacted by stat. 7. Jac. I. c. 6. that no member be permitted to enter the house of commons till he hath taken the oath of allegiance before the lord steward or his deputy: and by 30 Car. II. st. 2. and 1 Geo. I. c. 13. that no member shall vote or sit in either house, till he hath, in the presence of the house, taken the oaths of allegiance, supremacy, and abjuration, and subscribed and repeated the declaration against transubstantiation, and invocation of saints, and the sacrifice of the mass. Aliens, unless naturalized, were likewise by the law of parliament incapable to serve therein: and now it is enacted, by stat. 12 and 13 W. III. c. 2. that no alien, even though he be naturalized, shall be capable of being a member of either house of parliament. And there are not only these standing incapacities, but if any person is made a peer by the king, or elected to serve in the house of commons by the people, yet may the respective houses, upon complaint of any crime in such person, and proof thereof, adjudge him disabled and incapable to sit as a member: and this by the law and custom of parliament. For as every court of justice hath laws and customs for its direction, some the civil and canon, some the common law, others their own particular laws and customs; so the high court of parliament hath also its own peculiar law, called the lex et consuetudo parliamenti; a law which Sir Edward Coke observes is *ab omnibus quærenda, a multis ignorata, a paucis cognita*. It will not therefore be expected that we should enter into the examination of this law with minuteness; since as the same learned author assures us, it is much better to be learned out of the rolls of parliament and other records, and by precedents and continued experience, than can be expressed by any one man. The whole of the law and custom of parliament has its original from this one maxim, "that whatever matter arises concerning either house of parliament, ought to be examined, discussed, and adjudged in that house to which it relates, and not elsewhere." Hence, for instance, the lords will not suffer the commons to interfere concerning the election of a peer of Scotland; the commons will not allow the lords to judge of the election of a burgess; nor will either house permit the subordinate courts of law to examine the return of either case. But the maxims upon which they proceed, together with the method of proceeding, rest entirely in the breast of the parliament itself; and are not defined and ascertained by any particular stated laws. The privileges of parliament are likewise very large and indefinite; and therefore, when, in 31st Hen. VI. the house of lords propounded a question to the judges concerning them, the chief justice, Sir John Fortescue, in the name of his brethren, declared, "That they ought not to make answer to that question; for it hath not been used aforetime, that the justices should in anywise determine the privileges of the high court of parliament; for it is so high and mighty in its nature, that it may make law; and that which is law, it may make no law: and the determination and knowledge of that privilege belongs to the lords of parliament, and not to the justices." Privilege of parliament was principally established, in order to protect its members not only from being molested by their fellow-subjects, but also more especially from being oppressed by the power of the crown. If therefore all the privileges of parliament were once to be set down and ascertained, and no privilege to be allowed but what was so defined and determined, it were easy for the executive power to devise some new case, not within the line of privilege, and under pretence thereof to harass any refractory member, and violate the freedom of parliament. The dignity and independence of the two houses are therefore in great measure preserved by keeping their privileges indefinite. Some, however, of the more notorious privileges of the members of either house are, privilege of speech, of person, of their domestics, and of their lands and goods. As to the first, privilege of speech, it is declared by the statute 1 W. & M. st. 2. c. 2. as one of the liberties of the people, "That the freedom of speech, and debates, and proceedings in parliament, ought not to be impeached or questioned in any court or place out of parliament." And this freedom of speech is particularly demanded of the king in person, by the speaker of the house of commons, at the opening of every new parliament. So likewise are the other privileges, of person, servants, lands, and goods; which are immunities as ancient as Edward the Confessor: in whose laws we find this precept, *Ad synodos venientibus, sive summoniti sint, sive per se quid agendum habuerint, sit summa pax;* and so too in the old Gothic constitutions, *Extenditur hæc pax et securitas ad quatuordecim dies, convocato regni senatu.* This included formerly not only privilege from illegal violence, but also from legal arrests and seizures by process from the courts of law. And still to assault by violence a member of either house, or his menial servants, is a high contempt of parliament, and there punished with the utmost severity. It has likewise peculiar penalties annexed to it in the courts of law, by stat. 5 Hen. IV. c. 6. and 11 Hen. VI. c. 11. Neither can any member of either house be arrested and taken into custody without a breach of the privilege of parliament. But all other privileges which derogate from the common law are now at an end, save only as to the freedom of the member's person; which in a peer (by the privi-

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lege of peerage) is for ever sacred and inviolable; and in a commoner (by the privilege of parliament) for 40 days after every prorogation, and 40 days before the next appointed meeting; which is now in effect as long as the parliament subsists, it seldom being prorogued for more than 80 days at a time. As to all other privileges which obstruct the ordinary course of justice, they were restrained by the statutes 12 W. III. c. 3. 2 and 3 Ann. c. 18 and 11 Geo. II. c. 24. and are now totally abolished by statute 10 G. III. c. 50.; which enacts, that any suit may at any time be brought against any peer or member of parliament, their servants, or any other person entitled to privilege of parliament; which shall not be impeached or delayed by pretence of any such privilege, except that the person of a member of the house of commons shall not thereby be subjected to any arrest or imprisonment. Likewise, for the benefit of commerce, it is provided by statute 4 Geo. III. c. 33. that any trader, having privilege of parliament, may be served with legal process for any just debt (to the amount of 100l.): and unless he makes satisfaction within two months, it shall be deemed an act of bankruptcy; and that commission of bankruptcy may be issued against such privileged traders in like manner as against any other. The only way by which courts of justice could anciently take cognizance of privilege of parliament was by writ of privilege, in the nature of *supersedeas*, to deliver the party out of custody when arrested in a civil suit. For when a letter was written by the speaker to the judges, to stay proceedings against a privileged person, they rejected it as contrary to their oath of office. But since the statute 12 Will. III. c. 3. which enacts, that no privileged person shall be subject to arrest or imprisonment, it hath been held, that such arrest is irregular *ab initio*, and that the party may be discharged upon motion. It is to be observed, that there is no precedent of any such writ of privilege, but only in civil suits; and that the statute of 1 Jac. I. c. 13. and that of King William which remedy some inconveniences arising from privilege of parliament, speak only of civil actions. And therefore the claim of privilege hath been usually guarded with an exception as to the case of indictable crimes; or, as it hath been frequently expressed, of treason, felony, and breach of the peace. Whereby it seems to have been understood, that no privilege was allowable to the members their families, or servants, in any *crime* whatsoever; for all crimes are treated by the law as being *contra pacem domini regis*. And instances have not been wanting, wherein privileged persons have been convicted of misdemeanors, and committed, or prosecuted to outlawry, even in the middle of a session; which proceeding has afterwards received the sanction and approbation of parliament. To which may be added, that about 30 years ago, the case of writing and publishing seditious libels was resolved by both houses not to be entitled to privilege; and that the reasons upon which that case proceeded, extended equally to every indictable offence. So that the chief, if not the only, privilege of parliament, in such cases, seems to be the right of receiving immediate information of the imprisonment or detention of any member, with the reason for which he is detained: a practice that is daily used upon the slightest military accusations, preparatory to a trial by a court-martial; and which is recognized by the several temporary statutes for suspending the *habeas corpus* act: whereby it is provided, that no member of either house shall be detained, the matter of which he stands suspected be first communicated to the house of which he is a member, and the consent of the said house obtained for his commitment or detaining. But yet the usage has uniformly been, ever since the Revolution, that the communication has been subsequent to the arrest. See KING, LORDS, and COMMONS.

(8.) PARLIAMENT, METHOD OF MAKING LAWS IN.—IV. The method of proceeding, in enacting laws, is much the same in both houses. But for this we refer the reader to the article BILL, § 10—15, and shall only observe in this place, that, for the dispatch of business, each house of parliament has a speaker. The SPEAKER of the house of lords, whose office it is to preside there, and manage the formality of business, is the lord chancellor or keeper of the king's great seal, or any other appointed by the king's commission: and if none be so appointed, the house of lords (it is said) may elect. The speaker of the house of commons is chosen by the house; but must be approved by the king. And herein the usage of the two houses differs, that the speaker of the house of commons cannot give his opinion or argue any question in the house; but the speaker of the house of lords, if a lord of parliament, may. In each house the act of the majority binds the whole; and this majority is declared by votes openly and publicly given; not, as formerly, at Venice, and many other senatorial assemblies, privately, or by ballot. The latter method may be serviceable, to prevent intrigues and unconstitutional combinations; but impossible to be practised with us, at least in the house of commons, where every member's conduct is subject to the future censure of his constituents, and therefore should be openly subject to their inspection.

(9.) PARLIAMENT, METHOD OF PROROGUING, ADJOURNING, AND DISSOLVING.—V. 1. ADJOURNMENT is no more than a continuance of the session from one day to another, as the word signifies; and this is done by the authority of each house separately every day; and sometimes for a fortnight or a month together, as at Christmas, Easter, or upon other particular occasions. The adjournment of one house is no adjournment of the other. It has also been usual, when his Majesty hath signified his pleasure that both or either of the houses should adjourn themselves to a certain day, to obey the king's pleasure so signified, and to adjourn accordingly. Other besides the indecorum of a refusal, a prorogation would assuredly follow; which would often be very inconvenient to both public and private business. For prorogation puts an end to the session, and then such bills as are only begun, and not perfected, must be resumed *de novo* (if at all) in a subsequent session; whereas, after an adjournment all things continue in the same state as at the time of adjournment made, and may be proceeded on without any fresh commencement. ii. A PRO-

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carries is the continuance of the parliament from one ſeſſion to another; as an adjournment is a continuation of the ſeſſion from day to day. This is done by the royal authority, expreſſed either by the lord chancellor in his Majeſty's preſence, or by commiſſion from the crown, or frequently by proclamation. Both houſes are neceſſarily prorogued at the ſame time; it not being a prorogation of the houſe of lords or commons, but of the parliament. The ſeſſion is never underſtood to be at an end until a prorogation; though, unleſs ſome act be paſſed, or ſome judgment given in parliament, it is in truth no ſeſſion at all. And formerly the uſage was, for the king to give the royal aſſent to all ſuch bills as he approved at the end of every ſeſſion, and then to prorogue the parliament, though ſometimes only for a day or two; after which all buſineſs then depending in the houſes was not to be begun again. Which cuſtom obtained ſo ſtrongly, that it once became a queſtion, Whether giving the royal aſſent to a ſingle bill did not of courſe put an end to the ſeſſion? And though it was then reſolved in the negative, yet the notion was ſo deeply rooted, that the ſtatute 1 Car. I. c. 7. was paſſed to declare, that the king's aſſent to that and ſome other acts ſhould not put an end to the ſeſſion; and even ſo late as the reign of Charles II. we find a proviſo frequently tacked to a bill, that his Majeſty's aſſent thereto ſhould not determine the ſeſſion of parliament. But it now ſeems to be allowed, that a prorogation muſt be expreſsly made, in order to determine the ſeſſion. And if at the time of an actual rebellion, or imminent danger of invaſion, the parliament ſhall be ſeparated by adjournment or prorogation, the king is empowered to call them together by proclamation, with 14 days notice of the time appointed for their reaſſembling. iii. A DISSOLUTION is the civil death of the parliament; and this may be effected three ways: 1. By the king's will, expreſſed either in perſon or by repreſentation. For as the king has the ſole right of convening the parliament, ſo alſo it is a branch of the royal prerogative, that he may (whenever he pleaſes) prorogue the parliament for a time, or put a final period to its exiſtence. If nothing had a right to prorogue or diſſolve a parliament but itſelf, it might become perpetual. And this would be extremely dangerous, if at any time it ſhould attempt to encroach upon the executive power; as was fatally experienced by the unfortunate king Charles I.; who, having unadviſedly paſſed an act to continue the parliament then in being, till ſuch time as it ſhould pleaſe to diſſolve itſelf, at laſt fell a ſacrifice to that coordinate power which he himſelf had conſented to give them. It is is therefore extremely neceſſary, that the crown ſhould be empowered to regulate the duration of theſe aſſemblies, under the limitations which the Engliſh conſtitution has preſcribed: ſo that, on the one hand, they may frequently and regularly come together for the diſpatch of buſineſs and redreſs of grievances; and on the other, even with the conſent of the crown, be continued to an inconvenient or unconſtitutional length. 2. A parliament may be diſſolved by the demiſe of the crown. This diſſolution formerly happened immediately upon the death of the reigning ſovereign: for he being conſidered in law as the head of the parliament, (*caput, principium, et finis*), that failing, the whole body was held to be extinct. But the calling a new parliament immediately on the inauguration of the ſucceſſor being found inconvenient, and dangers being apprehended from having no parliament in being in caſe of a diſputed ſucceſſion, it was enacted by the ſtatutes 7 and 8 W. III. c. 15 and 6 Ann. c. 7. that the parliament in being ſhall continue for ſix months after the death of any king or queen, unleſs ſooner prorogued or diſſolved by the ſucceſſor; that if the parliament be, at the time of the king's death, ſeparated by adjournment or prorogation, it ſhall notwithſtanding aſſemble immediately: and that if no parliament is then in being, the members of the laſt parliament ſhall aſſemble, and be again a parliament. 3. Laſtly, a parliament may be diſſolved or expire by length of time. For if either the legiſlative body were perpetual, or might laſt for the life of the prince who convened them, as formerly, and were ſo to be ſupplied, by occaſionally filling the vacancies with new repreſentatives; in theſe caſes, if it were once corrupted, the evil would be paſt all remedy; but when different bodies ſucceed each other, if the people ſee cauſe to diſapprove of the preſent, they may rectify its faults in the next. A legiſlative aſſembly alſo, which is ſure to be ſeparated again, (whereby its members will themſelves become private men, and ſubject to the full extent of the laws which they have enacted for others), will think themſelves bound, in intereſt as well as duty, to make only ſuch laws as are good. The utmoſt extent of time that the ſame parliament was allowed to ſit, by the ſtatute 6 W. and M. c. 3. was *three* years: after the expiration of which, reckoning from the return of the firſt ſummons, the parliament was to have no longer continuance. But by ſtat. 1 Geo. I. ſt. 2. c. 38. (in order, profeſſedly, to prevent the great and continued expences of frequent elections, and the violent heats and animoſities conſequent thereupon, and for the peace and ſecurity of the government then juſt recovering from the late rebellion), this term was prolonged to *ſeven* years; and, what alone is an inſtance of the vaſt authority of parliament, the very ſame houſe that was choſen for three years, enacted its own continuance for ſeven. So that, as our conſtitution now ſtands, the parliament muſt expire, or die a natural death, at the end of every ſeventh year, if not ſooner diſſolved by the royal prerogative.

(10.) PARLIAMENT, PECULIAR FORMS OBSERVED IN. In the houſe of LORDS, the princes of the blood ſit by themſelves on the ſides of the throne; at the wall, on the king's right hand, the two archbiſhops ſit by themſelves on a form. Below them, the biſhops of London, Durham, and Wincheſter, and all the other biſhops, ſit according to the priority of their conſecration. On the king's left hand the lord treaſurer, lord preſident, and lord privy-ſeal, ſit upon forms above all dukes, except the royal blood; then the dukes, marquiſſes, and earls, according to their creation. Acroſs the room are wool-ſacks, continued from an ancient cuſtom; and the chancellor, or keeper being of courſe the ſpeaker of the houſe of lords,

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fits on the firſt wool-ſack before the throne, with the great ſeal or mace lying by him; below theſe are forms for the viſcounts and barons. On the other wool-ſacks are ſeated the judges, maſters in chancery, and king's council, who are only to give their advice in points of law: but they all ſtand up till the king gives them leave to ſit. 2. The Commons ſit promiſcuouſly; only the ſpeaker has a chair at the upper end of the houſe, and the clerk and his aſſiſtant ſit at the table near him. When a member of the houſe of commons ſpeaks, he ſtands up uncovered, and directs his ſpeech to the ſpeaker only. If what he ſays be anſwered by another, he is not allowed to reply the ſame day, unleſs perſonal reflections have been caſt upon him: but when the commons, in order to have a greater freedom of debate, have reſolved themſelves into a committee of the whole houſe, every member may ſpeak to a queſtion as often as he thinks neceſſary. In the houſe of lords they vote, beginning at the puiſne, or loweſt baron, and ſo up orderly to the higheſt, every one anſwering, *Content* or *Not content*. In the houſe of commons they vote by *yeas* and *nays*; and if it be dubious which are the greater number, the houſe divides. If the queſtion be about bringing any thing into the houſe, the *yeas* go out; but if it be about any thing the houſe already has, the *nays* go out. In all diviſions the ſpeaker appoints 4 *tellers*, two of each opinion. In a committee of the whole houſe, they divide by changing ſides, the *yeas* taking the right and the *nays* the left of the chair; and then there are but two tellers. If a bill paſs one houſe, and the other demur to it, a conference is demanded in the painted chamber, where certain members are deputed from each houſe; and here the lords ſit covered, and the commons ſtand bare, and debate the caſe. If they diſagree, the affair is null; and if they agree, this, with the other bills that have paſſed both houſes, is brought down to the king in the houſe of lords, who comes thither clothed in his royal robes; before him the clerk of the parliament reads the title of each bill, and as he reads, the clerk of the crown pronounces the royal aſſent or diſſent. If it be a public bill, the royal aſſent is given in theſe words, *Le roy le veut*, The king will have it ſo; if private, *Soit fait comme il eſt deſiré*, Let the requeſt be complied with; if the king refuſes the bill, the anſwer is *Le roy s'aviſera*, The king will think of it; and if it be a money-bill, the anſwer is, *Le roy remercie ſes loyaux ſujets, accepte leur benevolence, & auſſi le veut;* The king thanks his loyal ſubjects, accepts their benevolence, and therefore grants his conſent.

(11.) PARLIAMENT, THE HIGH COURT OF, is the ſupreme court in the kingdom, not only for the making, but alſo for the execution, of laws; by the trial of great and enormous offenders, whether lords or commoners, in the method of parliamentary impeachment. As for acts of parliament to attaint particular perſons of treaſon or felony, or to inflict pains and penalties, beyond or contrary to the common law, to ſerve a ſpecial purpoſe, we ſpeak not of them; being to all intents and purpoſes new laws, made *pro re nata*, and by no means an execution of ſuch as are already in being. But an impeachment before the lord by the commons of Great Britain, in parliament is a proſecution of the already known and eſta bliſhed law, and has been frequently put in prac tic; being a preſentment to the moſt high and ſu preme court of criminal juriſdiction by the mo ſolemn grand inqueſt of the whole kingdom. A commoner cannot, however, be impeached b fore the lords for any capital offence, but onl for any high miſdemeanors; a peer may be im peached for any crime. And they uſually (in ca of any impeachment of a peer for treaſon) addre the crown to appoint a lord high ſteward, for t greater dignity and regularity of their proceeding which high ſteward was formerly elected by t peers themſelves, though he was generally com miſſioned by the king; but it hath of late yea been ſtrenuouſly maintained, that the appoin ment of a high ſteward in ſuch caſes is not indi penſably neceſſary, but that the houſe may pr ceed without one. The articles of impeachme are a kind of bills of indictment, found by t houſe of commons, and afterwards tried by t lords; who are in caſes of miſdemeanours con dered not only as their own peers, but as t peers of the whole nation. This is a cuſtom d derived to us from the conſtitution of the ancie Germans; who in their great councils ſometim tried capital accuſations relating to the publi *Licet apud concilium accuſare quoque, et diſcrim capitis intendere.* And it has a peculiar proprie in the Engliſh conſtitution; which has much i proved upon the ancient model imported hith from the continent. For though in general t union of the legiſlative and judicial powers oug to be moſt carefully avoided, yet it may happ that a ſubject, intruſted with the adminiſtration public affairs, may infringe the rights of the p ple, and be guilty of ſuch crimes as the ordina magiſtrate either dares not or cannot puniſh. theſe the repreſentatives of the people, or ho of commons, cannot properly judge; becau their conſtituents are the parties injured, and therefore only impeach. But before what co ſhall this impeachment be tried? Not before ordinary tribunals, which would naturally ſwayed by the authority of ſo powerful an acc er. Reaſon therefore will ſuggeſt, that t branch of the legiſlature, which repreſents people, muſt bring its charge before the ot branch, which conſiſts of the nobility, who h neither the ſame intereſts, nor the ſame paſſio as popular aſſemblies. This is a vaſt ſuperio which the conſtitution of this iſland enj over thoſe of the Grecian or Roman republi where the people were at the ſame time b *judges* and *accuſers*. It is proper that the nobi ſhould judge, to inſure juſtice to the accuſed it is proper that the people ſhould accuſe, to ſure juſtice to the commonwealth. And therefo among other extraordinary circumſtances atte ing the authority of this court, there is one very ſingular nature, which was inflicted on the houſe of commons, in the caſe of the ear Da by in the reign of Charles II. and is enacted by ſtatute 12 & 13 W. III. c. 2. that pardon under the great ſeal ſhall be pleadable an impeachment by the commons of Great

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claim parliament. Such is the nature of a British parliament, and in theory at least we should presume it were nearly perfect; but some of our fellow-countrymen, more zealous perhaps than wise, see prodigious faults in it, such indeed as they think must inevitably prove fatal. The consequence of this persuasion has been a loud and incessant call for parliamentary reform. That abuses ought to be reformed, is certain, and that its institutions are so perfect as not to need amendment, is a fact equally indisputable. We shall even suppose, that there are many abuses in our parliament which would require to be amended; but granting all this and something more if it were necessary, we would recommend in the mean time to the serious consideration of those who call themselves the *Friends of the People*, whose sincerity in their professions it would be impolite to question, the example of France, and that they would allow it to be a warning to Britain. France wanted reform indeed, and that which was first proposed had the countenance of the coolest and the best of men; but the consequences have been dreadful; and instead of establishing LIBERTY and EQUALITY, have ended in the most absolute and uncontrolled DESPOTISM, ever established in any nation; now rendered *Imperial* and *hereditary* in the *house of Bonaparte*.

(12.) PARLIAMENT, THE LATE FRENCH. The ci-devant Parliaments of France were sovereign courts established by the king, finally to determine all disputes between particular persons, and to pronounce on appeals from sentences given by inferior judges.—There were ten of these parliaments in France, of which that of Paris was the chief, its privileges and jurisdiction being of the greatest extent. It consisted of eight chambers, where causes of audience were pleaded; the chamber of written law; the chamber of counsel; the Tournelle criminelle, for judging criminal affairs; the Tournelle civile, in aid of the grand chamber; and three chambers of inquests, where processes were adjudged in writing: besides these, there was also the chamber of vocations, and those of requests. In 1771 the king thought fit to branch the parliament of Paris into six different parliaments, under the denomination of superior courts, each parliament having similar jurisdiction. Under their second race of kings, this parliament, like that of England, was the king's council, it gave audience to ambassadors, and consulted of the affairs of war and government. The king, like ours, at that time presided in them, without being at all master of their resolutions. But in after times their authority was abridged; as the kings reserved the decision of the grand affairs of the public to their own councils; leaving none but private ones to the parliaments. The parliament of Paris also enjoyed the privileges of verifying and registering the king's arrets or edicts, without which those edicts were of little or no value.

(13.) PARLIAMENT, THE SWEDISH, consists of four estates, with the king at their head. These estates are, 1. The nobility and representatives of the gentry; with whom the colonels, lieutenant colonels, majors and captains of every regiment, sit and vote. 2. The clergy; one of which body is elected from every rural deanery of ten parishes; who, with the bishops and superintendents, amount to about 200. 3. The burghers, elected by the magistrates and council of every corporation as their representatives, of whom there are four for Stockholm, and two for every other town, amounting in the whole to about 150. 4. The peasants, chosen by the peasants out of every district; who choose one of their own rank, and not a gentleman, to represent them: these amount to about 250. All these generally meet at Stockholm: and after the state-affairs have been represented to them from the throne, they separate and sit in four several chambers or houses, in each of which affairs are carried on by majority of votes; and every chamber has a negative in the passing any law.

(1.) * PARLIAMENTARY. *adj.* [from *parliament*.] Enacted by parliament; pertaining to parliament.—To the three first titles of the two houses, or lines, and conquest, were added two more; the authorities *parliamentary* and papal. *Bacon.*—Many things, that obtain as common law, had their original by *parliamentary* acts. *Hale.*—Credit to run ten millions in debt, without *parliamentary* security, I think to be dangerous and illegal. *Swift.*

(2.) PARLIAMENTARY REFORM BILL. See ENGLAND, § 113.

* PARLOUR. *n. s.* [*parloir*, Fr. *parlatorio*, Ital.] 1. A room in monasteries, where the religious meet and converse. 2. A room in houses on the first floor, elegantly furnished for reception or entertainment.—Can we judge it a thing seemly for a man to go about the building of an house to the God of heaven, with no other appearance than if his end were to rear up a kitchen or a *parlour* for his own use? *Hooker.*—

Back again fair Almæ led them right,
And soon into a goodly *parlour* brought. *Spens.*

—It would be infinitely more shameful, in the dress of the kitchen, to receive the entertainments of the *parlour*. *South.*—

Roof and sides were like a *parlour* made. *Dryd.*
The first, forgive my verse if too diffuse,
Perform'd the kitchen's and the *parlour*'s use.
Harte.

* PAROUS. *adj.* [This might seem to come from *parler*, Fr. to speak; but *Junius* derives it, I think, rightly, from *perilous*, in which sense it answers to the Latin *improbus*.] Keen; sprightly; waggish.—

One must be trusted, and he thought her fit,
As passing prudent, and a *parlous* wit. *Dryd.*

* PARLOUSNESS. *n. s.* [from *parlous*.] Quickness; keenness of temper.

(1.) PARMA, a duchy or province of Italy, bounded on the N. by the Po; on the NE. by the late Mantuan, now the department of the Mincio, in the Italian republic; on the E. by the ci-devant duchy of Modena, now the dep. of Panaro, in the same republic; on the S. by Tuscany, now the kingdom of Etruria; and on the W. by the duchy of Placentia. In the midst of all these surrounding changes, this duchy has undergone no change in its political constitution, government, or geographical division; though such were threatened, but the duke made peace with the French republic, on the 25th Oct. 1795. The air is very wholesome, on which account the inhabitants live to

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to a great age. The ſoil is very fertile, in corn, wine, oil, and hemp; the paſtures feed a great number of cattle, and the cheeſe is in very high eſteem. Here are conſiderable mines of copper and ſilver, and plenty of truffles. See PARMESAN, N° 1.

(2.) PARMA, an ancient, rich, populous, and handſome city of Italy, capital of the above duchy, with a citadel, a biſhop's ſee, and an univerſity. It has a magnificent cathedral, and the largeſt opera-houſe in Europe, which has ſeats for 12,000 ſpectators; but as it required a vaſt number of candles, which occaſioned great expence, they have contrived another which has room for 2000 ſpectators. The dome and the church of St John are painted by the famous Corregio, who was a native. Charles III, king of the two Sicilies, carried away the library to Naples, which contained 18,000 volumes, and a very valuable cabinet of curioſities, as alſo the rich collection of medals. The citadel, which is very near the city, is built in the ſame taſte as that at Antwerp. In 1734, there was a bloody battle fought here; and in 1741, by the treaty of Aix-la-Chapelle, the duchies of Parma, Placentia, and Guaſtalla, were given to Philip, brother to Charles above mentioned. The principal ſtreets meet in the centre, and form a handſome ſquare. The new palace is built on the ſite of the old. It has 5 collegiate and 30 pariſh churches, beſides the cathedral of St John. Its chief manufacture is ſilk ſtockings, and ſome other articles in ſilk. It was famous for printing, and the books printed by Bodoni are remarkably beautiful. Parma, from its firſt foundation by the ancient Etrurians, has never changed its name. The population is eſtimated by Mr Martyn, at 37,000; by Berenger at 45,000. It is 32 miles SW. of Mantua; 60 SE. of Milan, and 60 SE. of Cremona. Lon. 10. 30. E. Lat. 44. 47. N.

(3.) PARMA, a river of Italy, which riſes in the S. part of the duchy, (N° 1.) near Etruria; divides the city of Parma, (N° 2.) into three parts, which were connected by 2 bridges over theſe branches; and falls into the Po, near Viadana.

(4.) PARMA. See PARMESAN, N° 1.

* PARMACITTY. *n. ſ.* Corruptedly for *ſperma ceti. Ainſworth.*

PARMANI, or PARMENENSES, } the ancient inhabitants of PARMA.

PARMENIDES, an ancient Greek philoſopher, born in Elis, about A. A. C. 505. He ſtudied under Xenophanes, or Anaximander. He taught that there were only two elements, fire and earth; and that the firſt generation of men was produced from the ſun. Along with theſe and other abſurdities, he taught ſome philoſophical truths: He firſt diſcovered that the earth is round, but he placed it, like Ptolemy, in the centre of the Solar Syſtem. He put his ſyſtem into verſe; and Fragments of it were collected by Henry Stephans, and publiſhed under the title of *De Poeſi Philoſophica.*

PARMENIO, a celebrated and popular general, in the army of Alexander the Great, who long enjoyed that prince's confidence, and was more attached to his perſon, as a *man* than as a monarch. Yet in a moment of ſuſpicion, excited by falſe information, Alexander ordered this faithful friend to be put to death, in his 70th year, along with his ſon. Plutarch remarks, that Parmenio gained many victories without Alexander, but Alexander not one without Parmenio.

PARMENTIER, John, a celebrated French navigator, born at Dieppe, in 1494. He was the firſt pilot who conducted veſſels to Brazil, and the firſt Frenchman, who diſcovered the Indies as far as Sumatra. He was a good aſtronomer, and laid down ſeveral excellent maps. He died at Sumatra, in 1530.

(1.) PARMESAN, the duchy of PARMA, in its moſt extenſive ſenſe; including not only the city and duchy of Parma Proper, (ſee PARMA, N° 1 & 2. but alſo thoſe of Guaſtalla and Placentia. (See PLACENTIA.) It extends 40 miles from N. to S. and from 30 to 48, from E. to W. This country once formed a ſmall republic; but afterwards fell ſucceſſively under the popes, the emperors, the duke of Milan, and the French, upon whoſe expulſion out of Italy, it was re-united to the Papal dominions. In 1345, Paul III. gave it to his natural ſon, Peter Aloyſius Farneſe; from whom the princes of that family deſcended. Of theſe the moſt celebrated was prince Alexander. (See ALEXANDER, N° 32.) The princeſs Elizabeth Farneſe daughter of duke Edward, being married to King Philip V. of Spain, in 1714, became heireſs of Parma, in 1720, on the death of her uncle Prince Francis; and her ſon, Philip, ſucceeded in 1749.

(2.) PARMESAN, *adj.* Of or belonging to Parma.

(3.) PARMESAN CHEESE, a ſort of cheeſe much eſteemed among the Italians; ſo named from the duchy of Parma where it is made, and whence it is conveyed to various parts of Europe. The cows from whoſe milk this cheeſe is made yield a great quantity of it. Of this cheeſe there are two ſorts; the *fromaggio di forma*, about two palms in diameter, and 7 or 8 inches thick; and the *fromaggio di ribiole* and *di ribolmi*, which are not ſo large. It is of a ſaffron colour; and the beſt will keep 3 or 4 years. See CHEESE, § 4.

PARMIGIANO, a celebrated painter, whoſe true name was Francis MAZZUOLI; but he was named *Parmigiano*, from Parma, where he was born, in 1504. He was educated under his two uncles, and was an eminent painter when but 18 years of age. He was famous all over Italy at 21, and at 23 performed ſuch wonders, that when the general of Charles V. took Rome by ſtorm, ſome of the ſoldiers, having, in ſacking the town, broke into his apartments, found him intent upon his work, and were inſtantly ſo ſtruck with the beauty of his pieces, that inſtead of involving him in the plunder and deſtruction in which they were then employed, they reſolved to protect him from all manner of violence; which they actually performed. His works are diſtinguiſhed by the beauty of the colouring, invention, and drawing. His figures are ſpirited and graceful, particularly with reſpect to attitude, and dreſſes. He alſo excelled in muſic, in which he much delighted. His paintings in oil are few, but held in high eſteem, as are alſo his drawings and etchings. He was the firſt that practiſed etching in Italy. At Rome he was employed by pope Clement VII. who was highly pleaſed with his performances, and rewarded him liberally. In the Houghton collection pictures, now in poſſeſſion of the emperor of Ruſſia

ſa, is one of his beſt pictures, repreſenting Chriſt laid in the ſepulchre, for which he is ſaid to have been knighted by the duke of Parma. His principal works are at Parma, where he died poor in 1540.

PARMILLIEU, a town of France, in the dep. of the Iſere, 24 miles ENE. of Lyons.

PARNASSIA, graſs of Parnaſſus, in botany; a genus of the tetragynia order, belonging to the pentandria claſs of plants. The calyx is quinquepartite; there are five petals, and as many nectaria, heart-ſhaped, and ciliated with globular tops; the capſule quadrivalved. There is but one ſpecies, having a ſtalk about a foot high, angular, and often a little twiſted, bearing a ſingle white flower at top. The flowers are very beautifully ſtreaked with yellow; ſo that though it is a common plant, growing naturally in moiſt paſtures, it is frequently admitted into gardens.

PARNASSO, in modern geography, a mountain of European Turkey, in Livadia; 8 miles N. of Livadia: much celebrated by the poets, under its ancient name

PARNASSUS, in ancient geography, a mountain of Phocis near Delphi, and the mounts Citheron and Helicon, with two tops; the one called *Cirrha*, ſacred to Apollo; and the other *Niſa*, ſacred to Bacchus. It was covered with bay trees, and originally called *Larnaſſus*, from Deucalion's larnax or ark, thither conveyed by the flood; after the flood, *Parnaſſus*; from Har Nahas, changing the h into p, the hill of divination or augury; the oracle of Delphi ſtanding at its foot. (*Strabo. Pind. Virg. Jun. Steph. Pericerus.*) Dr Chandler, who viſited it, thus deſcribes it, in his Travels in Greece: "Parnaſſus was the weſtern boundary of Phocis, and ſtretching N. from about Delphi toward the Ozean mountains, ſeparated the weſtern Locri from thoſe who poſſeſſed the ſea-coaſt before Eubœa. It was a place of refuge to the Delphians in times of danger. In the deluge, which happened under Deucalion, the natives were ſaved on it. In the invaſion by Xerxes, ſome tranſported their families to Achaia, but many concealed them in the mountain, and in Corycium, a grotto of the Nymphs. All Parnaſſus was renowned for ſanctity, but Corycium was the moſt noted among the hollowed caves and places. 'On the way to the ſummits of Parnaſſus, ſays Pauſanias, 60 ſtadia beyond Delphi, is a brazen image; and thence the aſcent to Corycium is eaſier for a man on foot, than for mules and horſes. Of all the caves in which I have been, this appeared to me the beſt worth ſeeing. On the coaſts, and by the ſea-ſide, are more than can be numbered; but ſome are very famous both in Greece and in other countries. The Corycian cave exceeds in magnitude thoſe I have mentioned, and for the moſt part may be paſſed through without a light. It is ſufficiently high; and has water, ſome ſpringing up, and yet more from the roof, which petrifies; ſo that the bottom of the whole cave is covered with ſparry icicles. The inhabitants of Parnaſſus eſteem it ſacred to the Corycian Nymphs, and to Pan.—From the cave to reach the ſummits of the mountain is difficult even to a man on foot. The ſummits are above the clouds, and the women called *Thyades* ſacrificed on them in the rites of Bacchus and Apollo.' Their frantic orgies were performed yearly. Wheler and his company aſcended Parnaſſus from Delphi, ſome on horſes, by a track between the Stadium and the clefts of the mountain. Stairs were cut in the rock, with a ſtraight channel, perhaps a water-duct.—In a long hour, after many traverſes, they gained the top, and entering a plain turned to the right, towards the ſummits of Caſtalia, which are divided by deep precipices. From this eminence they had a fine proſpect of the gulf of Corinth, and of the coaſt; mount Cirphis appearing beneath them as a plain, bounded on the E. by the bay of Aſproſpitia, and on the W. by that of Salona. They returned to the way they had quitted, and croſſed a hill, covered with pines and ſnow. On their left was a lake, and beyond it a peak, exceedingly high, white with ſnow. They travelled to the foot of it through a valley, 4 or 5 miles in compaſs; and reſted by a plentiful fountain called *Droſonigo*, the ſtream boiling up a foot in diameter, and nearly as much above the ſurface of the ground. It runs into the lake, about a quarter of a mile to the SE. They did not diſcover Corycium, or proceed farther on, but keeping the lake on their right, came again to the brink of the mountain, and deſcended by a deep and dangerous track to Racovi, a village 4 or 5 miles E. of Delphi. It was the opinion of Wheler, that no mountain in Greece was higher than Parnaſſus; that it was not inferior to mount Cenis among the Alps; and that, if detached it would be ſeen at a greater diſtance than even mount Athos. The ſummits are perpetually increaſing, every new fall of ſnow adding to the perennial heap, while the ſun has power only to thaw the ſuperficies. Caſtalis Pleiſtus, and innumerable ſprings are fed, ſome inviſibly, from the lakes and reſervoirs, which, without theſe drains and ſubterraneous vents, would ſwell, eſpecially after heavy rain and the melting of ſnow, ſo as to fill the valleys, and run over the tops of the rocks down upon Delphi, ſpreading wide an inundation, ſimilar, as has been ſurmiſed, to the Deucalionean deluge."

PARNE, a town of France, in the department of Mayenne; 6 miles SE. of Laval.

* PARNEL. *n. ſ.* [The diminutive of *petronella*.] A punk; a ſlut. Obſolete. *Skinner.*

PARNELL, Dr Thomas, a very ingenious divine and poet, born at Dublin, in 1679. He was educated at Trinity College, and in 1700, took his degree of M. A. In 1706, he came to England, and was much reſpected by Gay, Swift, Arbuthnot, &c. He was archdeacon of Clogher, and the intimate friend of Mr Pope: who publiſhed his *Hermit* and other works, with recommendatory verſes prefixed. He died in 1718, aged 39.

PARNES, a mountain of Africa, abounding in vines. *Stat. Theb.* v. 620.

PARNESSUS, a mountain of Aſia, near Bactriana. *Dionyſ. Per.* 737.

PARNI, an ancient nation of Scythia, who invaded Parthia. *Strabo*, xi.

PARNOT, a town of France, in the dep. of Upper Marne; 5 miles NW. of Bourbonne.

* PAROCHIAL. *adj.* [*parochialis*, from *parochia*, low Lat.] Belonging to a pariſh.—The married ſtate of *parochial* paſtors hath given them the opportunity

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opportunity of ſetting a more exact and univerſal pattern of holy living, to the people committed to their charge. *Atterbury.*

PARODICAL DEGREES, in an equation, a term uſed to denote the ſeveral regular terms in a quadratic, cubic, biquadratic, &c. equation, when the indices of the powers aſcend or deſcend orderly in an arithmetical progreſſion. Thus $x^3 + m x^2 + n x =$ is a cubic equation, where no term is wanting, but having all its parodic degrees; the indices of the terms regularly deſcending thus, 3, 2, 1, 0.

(1.) * PARODY. *n.ſ.* [*parodie*, Fr. παῤῥδία.] A kind of writing, in which the words of an author or his thoughts are taken, and by a ſlight change adapted to ſome new purpoſe.—The imitations of the ancients are added together with ſome of the *parodies* and alluſions to the moſt excellent of the moderns. *Pope's Dunciad.*

(2.) PARODY is alſo uſed for a popular maxim, adage, or proverb.

(3.) PARODY, in poetry, (§ 1.) conſiſts in applying the verſes written on one ſubject, by way of ridicule, to another; or in turning a ſerious work into a burleſque, by affecting to obſerve as near as poſſible the ſame rhimes, words, and cadences. The parody was firſt ſet on foot by the Greeks; from whom we borrow the name. It comes near to what ſome of our late writers call TRAVESTY. Others have more accurately diſtinguiſhed between a parody and burleſque; and they obſerve, that the change of a ſingle word may parody a verſe; or of a ſingle letter a word. Thus, in the laſt caſe, Cato expoſed the inconſtant diſpoſition of Marcus Fulvius Nobilior, by changing Nobilior into Mobilior. Another kind of parody conſiſts in the mere application of ſome known verſe, or part of a verſe of a writer, without making any change in it, with a view to expoſe it. A 4th inſtance is that of writing verſes in the taſte and ſtyle of authors little approved. The rules of parody regard the choice of a ſubject, and the manner of treating it. The ſubject ſhould be a known and celebrated work: as to the manner, it ſhould be by an exact imitation, and an intermixture of good natural pleaſantry.

* *To* PARODY. *v.a.* [*parodier*, Fr. from *parody.*] To copy by way of parody.—*I* have tranſlated, or rather *parodied*, a poem of Horace, in which I introduce you adviſing me. *Pope.*

PARO-HOTUN, a town of Chineſe Tartary; 288 miles NNE. of Peking. Lon. 136. 33. E. Ferro. Lat. 44. 2. N.

(1.) * PAROLE. *n.ſ.* [*parole*, French.] Word given as an aſſurance; promiſe given by a priſoner not to go away.—

Love's votaries enthral each other's ſoul.
'Till both of them live but upon *parole.*
Cleaveland.

—I have a ſcruple whether you can keep your *parole*, if you become a priſoner to the ladies. *Swift.*

(2.) PAROLE means alſo a word given out every day in orders by the commanding officer, both in camp and garriſon, in order to know friends from enemies.

(1.) * PARONOMASIA. *n.ſ.* [παρονομασία.] A rhetorical figure, in which, by the change of a letter or ſyllable, ſeveral things are alluded to. It is called, in Latin, *agnominatio. Dict.*

(2.) PRONOMASIA, ſignifies alſo a pun. See ORATORY, § 218.

(1.) * PARONYCHIA. *n.ſ.* [παρονυχία; *paronychie*, Fr.] A preternatural ſwelling or ſore under the root of the nail in one's finger; a felon; a whitlow. *Dict.*

(2.) PARONYCHIA, the WHITLOW, in ſurgery, is an abſceſs at the end of the fingers. According as it is ſituated more or leſs deep, it is differently denominated, and divided into ſpecies. It begins with a ſlow heavy pain, attended with a ſlight pulſation, without ſwelling, redneſs, or heat: but ſoon the pain, heat, and throbbing, are intolerable; the part grows large and red, the adjoining fingers and the whole hand ſwell up; in ſome caſes, a kind of red and inflated ſtreak may be obſerved, which, beginning at the affected part, continued almoſt to the elbow; nor is it unuſual for the patient to complain of a very ſharp pain under the ſhoulder, and ſometimes the whole arm is exceſſively inflamed and ſwelled; the patient cannot ſleep, the fever, &c. increaſing; and ſometimes delirium or convulſions follow. 1. When it is ſeated in the ſkin or fat, in the back or the top part of the finger, or under or near the nail, the pain is ſevere, but ends well. 2. When the periоſteum is inflamed or corroded, the pain is tormenting. 3. When the nervous coats of the flexor tendons of the fingers or nerves near them are ſeized, the worſt ſymptoms attend. If the firſt kind ſuppurates, it muſt be opened, and treated as abſceſſes in general; but the beſt method of treating the other two ſpecies is, on the firſt, or at furtheſt the ſecond day, to cut the part where the pain is ſeated quite to the bone: if this operation is longer deferred, a ſuppuration will come on; in which caſe ſuppuration ſhould be ſpeedily promoted, and as early a diſcharge given to the matter as poſſible. As the pain is ſo conſiderable as to occaſion a fever, and ſometimes convulſions, the tinct. theb. may be added to the ſuppurating applications, and alſo given in a draught at the ſame time. The 2d ſpecies proves very troubleſome; and ſometimes ends in a caries of the ſubjacent bone. The 3d ſpecies is very tedious in the cure, for uſually the phalanx on which it is ſeated is deſtroyed.

* PARONYMOUS. *adj.* [παρώνυμος.] Reſembling another word.—Shew your critical learning in the etymology of terms, the ſynonimous and the *paronymous* or kindred names. *Watts.*

PAROPAMISUS, in ancient geography, a range of mountains and an extenſive territory in the north of India; which took Alexander the Great and his army 16 days to croſs it. (See MACEDON, 14.) It is now called the *Indian Caucaſus*, and part of it *Stony Girdle.*

PAROPUS, a town of Sicily on the N. coaſt, now called *Coliſano. Polyb.* i, 24.

(1.) * PAROQUET. *n.ſ.* [*parroquet*, or *paroquet*, Fr.] A ſmall ſpecies of parrot.—The green red and blue, are parrots; the middlemoſt are popinjays; and the leſſer, *paroquets. Grew.*—

I would not give my *paroquet*
For all the doves that ever flew.

(2.) PAROQUET. See PSITTACUS.

PAROR

PARORIA, in ancient geography: 1. A town of Thrace, near mount Hæmus: (*Liv.* 39, c. 27.) 2. A town of Peloponnesus: 3. A district of Phrygia. *Strabo*, xii.

(1.) PAROS, in ancient geography, an island of the Ægean sea, one of the Cyclades, 38 miles from Delos; anciently called PACTYE and *Minoa*; also *Demetrias*, *Zacynthus*, *Hyria*, *Hyleessa*, and *Cabarnis*. It was the country of Archilochus, the Iambic poet, and famous for its white marble, called *lychnites*, because dug with lamps. The name of Cabarnis is derived according to Stephanus, from one Cabarnus, who informed Ceres of the rape of her daughter Proserpine; or, according to Hesychius, from the Cabarni, the priests of Ceres, so called by the Parians. The name of Minoa is borrowed from Minos king of Crete, who subdued this as he did most of the other islands of the Ægean sea. It was called *Paros*, which name it retains to this day, from Paros the son of Parrhasius, or of Jason the Argonaut. Paros, according to Pliny, is 7½ miles from Naxos, and 28 from Delos. Some modern travellers will have it to be 80, others only 50 miles in compass. Pliny says it is half as large as Naxos, that is, 36 miles in compass. Dr Brookes says, it is 10 miles long, and 8 broad. It was a rich and powerful island, being reckoned the most wealthy of the Cyclades. (*Pliny, Nepos, Strab. Nicander, Virg. Hor. Ovid.*) It is provided with several capacious and safe harbours, and was anciently much resorted to by traders. It was, according to Thucydides, originally peopled by the Phœnicians, who were the first masters of the sea. Afterwards the Carians settled here. Thucydides says, the Carians were driven out by the Cretans under Minos; but Diodorus writes, that the Carians did not settle here till after the Trojan war, when they found the Cretans in the island. Stephanus thinks that the Cretans, mixed with some Arcadians, were the only people that ever possessed this island. Minos himself, Pliny says, resided some time in this island, and received here the news of the death of his son Androgeus, who was killed in Attica after he had distinguished himself at the public games. The Parians were chosen from among all the Greeks by the Milesians to compose the differences which had rent that state into factions. They acquitted themselves with great prudence, and reformed the government. They assisted Darius in his expedition against Greece with a considerable squadron; but after the victory obtained by Miltiades at Marathon, they were reduced to great straits by that general. However, after blocking up the city for 26 days, he was obliged to quit the enterprize, and return to Athens with disgrace. After the battle of Salamis, Themistocles subjected Paros and most of the neighbouring islands to Athens, exacting large sums from them, for having favoured the Persians. It appears from the famous monument of Adulas, which Cosmos of Egypt has described with great exactness, that Paros and the other Cyclades were once subject to the Ptolemies of Egypt. However, Paros fell again under the power of the Athenians, who continued masters of it till they were driven out by Mithridates the Great. But that prince being obliged to yield to Sylla, Lucullus, and Pompey, this and the other islands of the Archipelago submitted to the Romans, who reduced them to a province with Lydia, Phrygia, and Caria. The Russians made this place their grand arsenal; their powder magazines, and several other buildings, are still standing; and the island is indebted to them for improving the convenience for water, and for the trade which the cash they expended introduced among the inhabitants. It lies near to Naxia.

(2.) PAROS, the metropolis of the above island is styled by Stephanus a potent city, and one of the largest in the Archipelago: the present city of Paros, now PARICHIA, is built upon its ruins, the country abounding with valuable monuments of antiquity. The very walls are built with columns, architraves, pedestals, mingled with pieces of ancient marble of a surprising magnitude, which were once employed in more noble edifices. Paros was indeed formerly famous for its marble, which was of an extraordinary whiteness, and in such request among the ancients that the best statuaries used no other. The celebrated statuaries *Phidias* and *Praxiteles* were born in it; and the authenticity of its marble Chronicle is now established. See ARUNDELIAN MARBLES; and PARIAN CHRONICLE. The city lies on the W. coast. Lon. 25. 44. E. Lat. 37. 8. N.

(1.) * PAROTID. *adj.* [*parotide*, Fr. παρὰ, οὖς and ὠτὸς.] Salivary; so named because near the ears.—Beasts and birds, having one common use of spittle, are furnished with the *parotid* glands, which help to supply the mouth with it. *Grew.*

(2.) PAROTID GLANDS, or the

PAROTIDES, See ANATOMY, *Index.*

* PAROTIS. *n. s.* [παρωτὶς.] A tumour in the glandules behind and about the ears, generally called the emunctories of the brain; though, indeed, they are the external fountains of the saliva of the mouth. *Wiseman.*

* PAROXYSM. *n. s.* [παροξυσμὸς; *paroxysme*, Fr.] A fit; periodical exacerbation of a disease.—I fancied to myself a kind of ease, in the change of the *paroxysm*. *Dryden.*—Amorous girls, thro' the fury of an hysteric *paroxysm*, are cast into a trance for an hour. *Harvey.*—The greater distance of time there is between the *paroxysms*, the fever is less dangerous, but more obstinate. *Arbuthnot.*

PARPAILLOTS, a name given to the Calvinists in France. See CALVINISM.

PARQUIMANS, a county of N. Carolina, in Edenton district, bounded on the N. by Virginia, E. by the Pasquotank, S. by Albemarle Sound, and W. by Chowan county. In 1795, it contained 3,560 citizens, and 1878 slaves. A county court is held at the Court house the 2d Monday of February, May, August, and November.

(1.) PARR, Catharine, was the eldest daughter of Sir Thomas Parr of Kendall. She was first married to John Nevil, lord Latymer; after whose death she so captivated K. Henry VIII. that he raised her to the throne. The royal nuptials were solemnized at Hampton Court, on the 12th of July 1534. Being religiously disposed, she was, in the early part of her life, a zealous observer of the Romish rites and ceremonies; but in the dawning of the Reformation, she became as zealous

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lous a promoter of the Lutheran doctrine; yet with such prudence and circumspection as her perilious situation required. In such danger was she at one time, that the king had actually signed a warrant for committing her to the tower. She had art enough to restore herself to his good graces. The king died in January 1547, just 3¼ years after his marriage with his 3d Catharine; who in a short time was again espoused to Sir Thomas Seymour lord-admiral of England: for in September 1548 she died in childbed. The historians of this period generally insinuate, that she was poisoned by her husband, to make way for his marriage with the lady Elizabeth. That Catharine Parr was beautiful is beyond a doubt; that she was pious and learned is evident from her writings: and that her prudence and sagacity were not inferior to her other accomplishments, may be concluded from her holding up the passion of a capricious tyrant as a shield against her enemies; and that at the latter end of his days, when his passions were enfeebled by age, and his peevish austerity increased by disease. She wrote, 1. Queen Catharine Parr's lamentation of a sinner, bewailing the ignorance of her blind life; Lond. 8vo, 1548, 1563. 2. Prayers or meditations, wherein the mynd is stirred patiently to suffre all afflictions here, to set at nought the vain prosperitee of this world, and always to long for the everlastynge felicitee. Collected out of holy workes, by the most virtuous and gracious princesse, Katharine, queene of Englande, France, and Irelande. Printed by J. Wayland, 1545, 4to,—1561, 12mo. 3. Other Meditations, Prayers, Letters, &c. unpublished.

(2.) PARR, Thomas, or *Old Parr*, a remarkable Englishman, who lived in the reigns of ten kings and queens. He was the son of John Parr, a husbandman of Winnington, in the parish of Alderbury, Salop. Following the profession of his father, he laboured hard, and lived on coarse fare. Being taken up to London by the E. of Arundel, the journey proved fatal to him; owing to the alteration in his diet, to the change of the air, and his general mode of life, he lived but a very short time, though one Robert Samber says, in his work, entitled *Long Livers*, that Parr lived 16 years after his presentation to Charles II. He was buried in Westminster Abbey. After his death his body was opened; and an account was drawn up by the celebrated Dr HARVEY, of which the following is an extract; "He had a large breast, not fungous, but sticking to his ribs, and distended with blood; a lividness in his face, as he had a difficulty of breathing a little before his death, and a long lasting warmth in his armpits and breast after it; which sign, together with others, were so evident in his body, as they use to be on those that die by suffocation. His heart was great, thick, fibrous, and fat. The blood in the heart blackish and diluted. The cartilages of the sternum not more bony than in others, but flexile and soft. His viscera were found and strong, especially the stomach; and he used to eat often by night and day, though contented with old cheese, milk, coarse bread, small beer, and whey; and, which is more remarkable, that he eat at midnight a little before he died. His kidneys were covered with fat, and pretty sound; only on the interior surface were found some ... queous or serous abscesses, whereof one was ne... the bigness of a hen's egg, with a yellowish wat... in it, having made a roundish cavity, impre... sed on that kidney; whence some thought ... came that a little before his death a suppressio... of urine had befallen him; though others we... of opinion, that his urine was suppressed upon t... regurgitation of all the serosity into his lung... Not the least appearance there was of any sto... matter, either in the kidneys or bladder. H... bowels were also sound, a little whitish withe... His spleen very little, hardly equalling the bign... of one kidney. In short, all his inward parts a... peared so healthy, that if he had not changed ... diet and air, he might perhaps have lived a go... while longer. The cause of his death was imput... chiefly to the change of food and air; forasmu... as coming out of a clear, thin, and free air, ... came into the thick air of London; and after ... constant plain and homely country diet, he w... taken into a splendid family, where he fed hi... and drank plentifully of the best wines, whe... upon the natural functions of the parts of his b... dy were overcharged, his lungs obstructed, a... the habit of the whole body quite disordere... upon which there could not but ensue a disso... tion. His brain was sound, entire, and firm; a... though he had not the use of his eyes, nor mu... of his memory, several years before he died, ... he had his hearing and apprehension very we... and was able even to the 130th year of his a... to do any husbandman's work, even thresh... of corn." The following summary of his life ... from Oldys's MS. notes on Fuller's Worthi... "Old Parr was born 1483; lived at home u... 1500, æt. 17, when he went out to service. 15... æt. 35. returned home from his master. 1522, ... 39, spent four years on the remainder of his fathe... lease. 1543, æt. 60, ended the first lease he ... newed of Mr Lewis Porter. 1563, æt. 80, m... ried Jane, daughter of John Taylor, a maid... by whom he had a son and a daughter, ... both died very young. 1564, æt. 81, ended ... second lease which he renewed of Mr John P... ter. 1585, æt. 102, ended the third lease ... had renewed of Mr Hugh Porter. 1588, æt. ... did penance in Alderbury church, for lying ... Katharine Milton, and getting her with ch... 1595, æt. 112, he buried his wife Jane, after t... had lived 32 years together. 1605, æt. ... having lived 10 years a widower, he mar... Jane, widow of Anthony Adda, daughter ... John Lloyd of Gilsella, in Montgomeryshire, ... survived him. 1635, æt. 152 and 9 months, ... died; after they had lived together 30 ye... and after 50 years possession of his last lease."

(I.) PARRA, in geography, a town of Pe... in Segestan, 60 miles N. of Zareng.

(II.) PARRA, in ornithology, a genus of b... belonging to the order of grallæ; the charac... of which are: The bill is tapering and a l... obtuse; the nostrils are oval, and situated in ... middle of the bill; the forehead is covered ... fleshy caruncles, which are lobated; the wings ... small, and spinous. There are 5 species:

1. PARRA CHAVARIA is about the size ... dung-hil cock, and stands a foot and a half ...

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the ground. The bill is of a dirty white colour; the upper mandible similar to that in a dung-hil cock; the nostrils are oblong, pervious: on both sides, at the base of the bill, is a red membrane, which extends to the temples. The irides are brown. On the hind head are about 11 blackish feathers, 3 inches long, forming a creſt, and hanging downwards. The reſt of the neck is covered with a thick black down. The body is brown, and the wings and tail inclined to black. On the head of the wings are 2 or 3 ſpurs half an inch long. The belly is a light black. The thighs are naked of feathers. The legs are very long, and of a yellow red colour. The toes are ſo long as to entangle one another in walking. "This ſpecies (ſays Mr Latham in his Synopſis) inhabits the lakes, &c. near the river Cinu, about 30 leagues from Carthagena, in S. America, and feeds on vegetables. Its gait is ſolemn and ſlow; but it flies eaſily and ſwiftly. It cannot run, unleſs aſſiſted by the wings at the ſame time. When any part of the ſkin is touched by the hand, a crackling is felt, though it is very downy beneath the feathers; and indeed this down adheres ſo cloſely as to enable the bird at times to ſwim. The voice is clear and loud, but far from agreeable. The natives, who keep poultry in great numbers, have one of theſe tame, which goes along with the flock about the neighbourhood to feed during the day, when this faithful ſhepherd defends them againſt birds of prey; being able, by means of the ſpurs on the wings, to drive off birds as big as the carrion vulture, and even that bird itſelf. It is ſo far of the greateſt uſe, as it never deſerts the charge committed to its care, bringing them all home ſafe at night. It is ſo tame as to ſuffer itſelf to be handled by a grown perſon; but will not permit children to attempt it.—For the above account we are indebted to Linnæus, who ſeems to be the only one who has given any account of this wonderful bird."

3. PARRA DOMINICA is about the ſize of the ſparrow. The bill is yellow, as are alſo the head and upper parts; the under are of a yellowiſh white, bordering on roſe colour. The legs are aſh-colour. This ſpecies inhabits ſeveral of the warmer parts of America and St Domingo.

4. PARRA JACANA, *the ſpur-winged water hen*, is about the ſize of the water rail. The bill is in length about an inch and a quarter, of an orange colour; and on the forehead is a membranous flap half as much long and nearly as broad. On each ſide of the head alſo is another of the ſame, about a quarter of an inch broad, and both together they ſurround the baſe of the bill. The head, throat, neck, breaſt, and under parts, are black; and ſometimes the belly is mixed with white, &c. This ſpecies inhabit Braſil, Guiana, and Surinam, but are equally common at St Domingo, where they frequent the marſhy places, ſides of ponds, and ſtreams, and wade quite up to the thighs in the water. They are alſo generally ſeen in pairs, and when ſeparated call each other continually till they join again. They are very lazy, and moſt common in the rainy ſeaſons of May and November. They are at all times very noiſy; their cry ſharp and ſhrill, and may be heard a great way off. This is called by the French *chirurgien*. The fleſh is accounted pretty good.

4. PARRA SENEGALLA is about the ſame ſize with the DOMINICA, N° 2. Its bill is alſo yellow tipped with black; the forehead is covered with a yellow ſkin; the chin and throat are black; the head and upper parts of the body and leſſer wing coverts are grey-brown. The lower part of the belly, and the upper and under tail-coverts are dirty white. At the bend of the wing is a black ſpur. It inhabits Senegal, and thence derives its name. The negroes call them *Uett Uett*, the French the *ſquallers*, becauſe, as we are told, as ſoon as they ſee a man they ſcream and fly off. They always fly in pairs.

5. PARRA VARIABILIS, *the ſpur-winged water hen*, is about 9 inches long. The bill is about 14 inches in length, and in colour orange-yellow. On the fore head is a flap of red ſkin; the crown of the head is brown, marked with ſpots of a darker colour; the hind part of the neck is much the ſame, but of a deeper dye. The ſides of the head, throat, fore part of the neck, breaſt, belly, thighs, and under tail coverts are white, with a few red ſpots on the ſides of the belly and baſe of the thighs. On the fore part of the wing is a yellow ſpur, &c. The legs are furniſhed with long toes, as in all the others, the colour of which is bluiſh aſh. Mr Latham ſays, that one which came under his inſpection from Cayenne was rather ſmaller. It had the upper parts much paler; over the eye was a ſtreak of white paſſing no further, and unaccompanied by a black one. The hind part of the neck was duſky black. It had only the rudiment of a ſpur; and the red caruncle on the forehead was leſs, and laid back on the forehead. From theſe differences this learned ornithologiſt conceives it to have differed either in ſex or age from the other. This ſpecies inhabits Braſil, and is ſaid to be pretty common about Carthagena and in South America.

PARRAMATTA, a town of New S. Wales, ſettled by Britiſh convicts, at the harbour of Port Jackſon, 11 miles W. of Sydney Cove, between Roſe-hill and the landing place. In 1791, about 1000 acres of the adjacent grounds were in cultivation; and the ſoil is good. Lon. 151. 39. E. Lat. 33. 50. S.

PARRECEY, a town of France, in the dep. of Jura; 4½ m. S. of Dole, and 4½ NNE. of Chauſſin.

PARRELS, *n. ſ.* in a ſhip, are frames made of trunks, ribs, and ropes, which, having both their ends faſtened to the yards, are ſo contrived as to go round about the maſt, that the yards by their means may go up and down upon the maſt. Theſe alſo, with the breaſtropes, faſten the yards to the maſts.

PARRET, or PEDRED, a river of Somerſetſhire, which riſes in the S. part of that county, on the borders of Dorſetſhire. Near Langport it is joined by the Ordred, augmented by the Ivel; and, about four miles from this junction, it is joined by the Tone or Thone, a pretty large river, riſing among the hills in the weſtern parts of this country. About two miles below the junction of the Tone, the Parret receives another conſiderable ſtream; and thus augmented, it paſſes by the town of Bridgewater, and falls into the Briſtol channel in Bridgewater Bay.

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(1.) PARRHASIUS, a famous ancient painter of Ephesus, or, as some say, of Athens: he flourished about the time of Socrates, according to Xenophon. It is said, that, he was excelled by Timanthes, but excelled Zeuxis. His subjects were very licentious.

(2.) PARRHASIUS, Janus, a famous grammarian in Italy, who was born at Cosenza, in Naples, in 1470. He was intended for the law, the profession of his ancestors; but he preferred classical learning. His real name was *John Paul Parisius*; but according to the humour of the grammarians of that age, he called himself *Janus Parrhasius*. He taught at Milan with much reputation, being admired for a graceful delivery, in which he chiefly excelled other professors.—He went to Rome when Alexander VI. was pope; but left it when in danger of being involved in the misfortunes of Cajetan and Savello, with whom he had some correspondence. Soon after, he was appointed professor of rhetoric at Milan; but presuming to censure the teachers there as *arrant blockheads*, they accused him of a criminal converse with his scholars, which obliged him to leave Milan. He went to Vicenza, where he obtained a larger salary; and he held this professorship till the Venetian states were laid waste by the troops of the League; upon which he returned to his native country. By the recommendation of John Lascaris, he was called to Rome by Leo X. who appointed him professor of polite literature. But, exhausted by his studies and labours, he became so afflicted with the gout, that he was obliged to return to Calabria, where he fell into a fever, and died. There are several books ascribed to him; particularly *Commentaries on Horace*, and *Ovid*.

PARRHESIA. See ORATORY, § 233.

* PARRICIDAL. PARRICIDIOUS. *adj.* [from *parricida*, Latin.] Relating to parricide; committing parricide.—He is now paid in his own way, the *parricidious* animal, and the punishment of murtherers is upon him. *Brown.*

(1.) * PARRICIDE. *n. s.* [*parricide*, French; *parricida*, Latin.] 1. One who destroys his father.—

I told him the revenging gods
'Gainst *parricides* did all their thunder bend. *Shak.*

2. One who destroys or invades any to whom he owes particular reverence: as his country or patron. 3. [*Parricide*, Fr. *parricidium*, Lat.] The murder of a father; murder of one to whom reverence is due.—Although he was a prince in military virtue approved, and likewise a good lawmaker; yet his cruelties and *parricides* weighed down his virtues. *Bacon.*—

He will by *parricide* secure the throne. *Dryd.*

(2.) PARRICIDE, (§ 1. *Def.* 3.) is the murder of one's parents or children. By the Roman law, it was punished in a severer manner than any other kind of homicide. After being scourged, the delinquents were sewed up in a leathern sack, with a live dog, a cock, a viper, and an ape, and so cast into the sea. Solon, it is true, in his laws, made none against parricide; apprehending it impossible that one should be guilty of so unnatural a barbarity. And the Persians, according to Herodotus, entertained the same notion, when they adjudged all persons who killed their reputed parents to be bastards. And upon some such reason as this must we account for the omission of an exemplary punishment for this crime in the English law; which treat it no otherwise than as simple murder, unless the child was also the servant of the parent. For though the breach of natural relation is unobserved, yet the breach of civil or ecclesiastic connections, when coupled with murder, denominates it a new offence; no less than a species of treason called, *parva proditio*, or *petit treason*: which however, is nothing else but an aggravated degree of murder; although, on account of the violation of private allegiance, it is stigmatized as an inferior species of treason. And thus, in the ancient Gothic constitution, we find the breach both of natural and civil relations ranked in the same class with crimes against the state and sovereign.

PARRICIDIOUS. See PARRICIDAL.

PARROAH, a town of Ceylon; 50 miles WSW of Trinkomaly.

PARROCEL, the name of 3 eminent French painters. 1. Joseph was born at Brignoles, in 164[illegible] studied at Paris, and in Italy under Bourguignon became eminent for painting battles, tho' he had never seen an army; was elected a member of the academy of painting; and died at Paris in 17[illegible]. 2. Charles, his son and pupil, became also so eminent that he was appointed to paint the conquests of Lewis XV. He died at Paris in 1752, aged [illegible]. Peter, born at Avignon, nephew to Joseph, was also his pupil, and performed many capital works at St Germain, &c. His chief piece is at Versailles. He died in 1739, aged 75.

(1.) * PARROT. *n. s.* [*perroquet*, French.] A parti-coloured bird of the species of the hooked bill, remarkable for the exact imitation of the human voice. See PAROQUET.—

Some will ever more peep through their eyes
And laugh like *parrots* at a bag-piper. *Sh*
Who taught the *parrots* human notes to t
Dry

(2.) PARROT. See PSITTACUS.

PARR-TOWN, a town of Nova Scotia.

PARRY, Richard, D.D. a learned English divine, educated at Oxford, where he graduated 1757. He was rector of Wichampton, and master of Market Harborough, where he died in 17[illegible]. He wrote many useful religious treatises.

* *To* PARRY. *v. n.* [*parer*, French.] To put by thrusts; to fence.—A man of courage, who can not fence, and will put all upon one thrust, that is not stand *parrying*, has the odds against a moderate fencer. *Locke.*—

With learned skill, now push, now *parry*,
From Darii to Bocardo vary. *P*

PARSBERG, a town of Bavaria, in Newburg, 9 miles NNE. of Dietfurt, and 18 NW. of Ratisbon.

PARSCHINA, a town of China, in Tobolsk, 560 miles SE. of Turuchansk. Lon. 124. 40. Ferro. Lat. 60. 40. N.

PARSCHWITZ, a town of Silesia, in Lignitz; 9 miles SSE. of Luben, and 8 NE. of Lignitz.

* *To* PARSE. *v. a.* [from *pars*, Latin.] To resolve a sentence into the elements or parts of speech. It is a word only used in grammar schools.—Let him construe the letter into English,

p

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parſe it over perfectly. *Aſcham's Schoolmaſter.*—Let ſcholars reduce the words to their original, to the firſt caſe of nouns, or firſt tenſe of verbs, and give an account of their formations and changes, their ſyntax and dependencies, which is called *parſing*. *Watts on the Mind.*

PARSHORE, a town of Worceſterſhire, 7 miles from Worceſter, and 102 from London, on the N. ſide of the Avon, near its junction with the Bow, being a conſiderable thoroughfare in the lower road from Worceſter to London. A religious houſe was founded here in 604, a ſmall part of which now remains, and is uſed as the pariſh church of Holy Croſs, the whole of which contained above 10 acres. The abbey church was 250 feet long, and 120 broad. The pariſh of Parſhore is of great extent, and hath within its limits many manors and chapelries. At preſent it has two pariſhes, Holy Croſs and St Andrew. In Holy Croſs church are ſeveral very antique monuments. Its chief manufacture is ſtockings. It contains about 300 houſes, and has markets on Tueſday and Saturday; fairs Eaſter Tueſday, June 26th, and Tueſday before Nov. 1ſt.

* PARSIMONIOUS. *adj.* [from *parſimony*] Covetous; frugal; ſparing. It is ſometimes of a good, ſometimes of a bad ſenſe.—A prodigal king is nearer a tyrant, than a *parſimonious*. *Bacon.*—A long *parſimonious* war will draſn us of more men and money. *Addiſon.*—

Parſimonious age and rigid wiſdom. *Rowe.*

* PARSIMONIOUSLY. *adv.* [from *parſimonious*] Covetouſly; frugally; ſparingly.—Our anceſtors acted *parſimoniouſly*, becauſe they only ſpent their own treaſure for the good of their poſterity. *Swift.*

* PARSIMONIOUSNESS. *n. ſ.* [from *Parſimonious*] A diſpoſition to ſpare and ſave.

* PARSIMONY. *n. ſ.* [*parſimonia*, Latin.] Frugality; covetouſneſs; niggardlineſs; ſaving temper.—The ways to enrich are many: *parſimony* is one of the beſt, and yet is not innocent. *Bacon.*—Theſe people, by their extreme *parſimony*, ſoon grow into wealth from the ſmalleſt beginnings. *Swift.*

PARSING, *n. ſ.* See *To* PARSE.

(2.) * PARSLEY. *n. ſ.* [*perſil*, Fr. *apium*, Lat. *perſli*, Welſh.] An herb.—A wench married in the afternoon, as ſhe went to the garden for *parſley* to ſtuff a rabbit. *Shak.*—

Green beds of *parſley* near the river grow.
Dryden.

—Sempronia dug Titus out of the *parſley*-bed, as they uſe to tell children, and thereby became his mother. *Locke.*

(2.) PARSLEY, in botany. See APIUM.

(3.) PARSLEY, BASTARD. See CAUCALIS.

(4.) PARSLEY, BASTARD STONE. See SISON.

(5.) PARSLEY, CORN. See SISON, N° 3.

(6.) PARSLEY, FOOL'S. See ÆTHUSA.

(7.) PARSLEY, MACEDONIAN. See RUBON.

(8.) PARSLEY, MILK. See SELINUM.

(9.) PARSLEY, MOUNTAIN. See ATHAMANTA.

(10.) PARSLEY PIERT. See APHANES.

(2.) * PARSNEP. *n. ſ.* [*paſtinaca*, Latin.] A plant.—November is drawn in a garment of changeable green, and bunches of *parſneps* and turnips in his right hand. *Peacham on Blazoning.*

(2.) PARSNEP, in botany. See PASTINACA.

(3.) PARSNEP, COW'S. See HERACLEUM.

(4.) PARSNEP, PRICKLY. See ECHINOPHORA.

(5.) PARSNEP, WATER. See SIUM.

(1.) * PARSON. *n. ſ.* [Derived either from *perſona*, becauſe the *parſon* omnium *perſonam* in eccleſia ſuſtinet; or from *parochianus*, the pariſh prieſt.] 1. The prieſt of a pariſh; one that has a parochial charge or cure of ſouls.—Abbot was preferred by king James to the biſhoprick of Coventry and Litchfield, before he had been *parſon*, vicar, or curate of any pariſh church. *Clarendon.* 2. A clergyman.—

Sometimes comes ſhe with a tithe pig's tail,
Tickling the *parſon* as he lies aſleep. *Shak.*

3. It is applied to the teachers of the preſbyterians.

(2.) *A* PARSON is one that hath full poſſeſſion of all the rights of a parochial church. He is called parſon, *perſona*, becauſe by his perſon the church is repreſented; and he is in himſelf a body corporate, to protect and defend the rights of the church (which he perſonates) by a perpetual ſucceſſion. He is ſometimes called the *rector* or *governor* of the church; but the appellation of *parſon* is the moſt legal and moſt honourable title, that a pariſh prieſt can enjoy; becauſe ſuch a one, (Sir Edward Coke obſerves), and he only, is ſaid *vicem ſeu perſonam eccleſiæ gerere*. A parſon has, during his life, the freehold in himſelf of the parſonage houſe, the glebe, the tithes, and other dues. But theſe are ſometimes *appropriated*; that is, the benefice is perpetually annexed to ſome ſpiritual corporation, either ſole or aggregate, being the patron of the living; whom the law eſteems equally capable of providing for the ſervice of the church as any ſingle private clergyman. (See APPROPRIATION, § 2.) The appropriating corporations, or religious houſes, were wont to depute one of their own body to perform divine ſervice, and adminiſter the ſacraments in thoſe pariſhes of which the ſociety was thus the parſon. This officiating miniſter was in reality no more than a curate, deputy, or vicegerent of the appropriator, and therefore called *vicarius*, VICAR. His ſtipend was at the diſcretion of the appropriator, who was, however, bound of common right to find ſomebody, *qui illi de temporalibus, epiſcopo de ſpiritualibus, debeat reſpondere*. But this was done in ſo ſcandalous a manner, and the pariſhes ſuffered ſo much by the neglect of the appropriators, that the legiſlature was forced to interpoſe: and accordingly it is enacted, by ſtat. 15 Ric. II. c. 6. that in all appropriations of churches the dioceſan biſhop ſhall ordain (in proportion to the value of the church) a competent ſum to be diſtributed among the poor pariſhioners annually; and that the vicarage ſhall be ſufficiently endowed. The pariſh frequently ſuffered, not only by the want of divine ſervice, but alſo by with-holding thoſe alms, for which, among other purpoſes, the payment of tithes was originally impoſed: and therefore in this act a penſion is directed to be diſtributed among the poor parochians,

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chians, as well as a ſufficient ſtipend to the vicar. But he, being liable to be removed at the pleaſure of the appropriator, was not likely to inſiſt too rigidly on the legal ſufficiency of the ſtipend; and therefore, by ſtat. 4. Hen. IV. c. 12. it is ordained, that the vicar ſhall be a ſecular perſon, not a member of any religious houſe; that he ſhall be vicar perpetual, not removable at the caprice of the monaſtery; and that he ſhould be canonically inſtituted and inducted, and be ſufficiently endowed, at the diſcretion of the ordinary; for theſe three expreſs purpoſes, to do divine ſervice, to inform the people, and to keep hoſpitality. The endowments, in conſequence of theſe ſtatutes, have uſually been by a portion of the glebe or land belonging to the parſonage, and a particular ſhare of the tithes, which the appropriators found it moſt troubleſome to collect, and which are therefore generally called *petty* or *ſmall tithes*; the greater, or *perdial* tithes, being ſtill reſerved to their own uſe. But one and the ſame rule was not obſerved in the endowment of all vicarages. Hence ſome are more liberally, and ſome more ſcantily, endowed: and hence the tithes of many things, as wood in particular, are in ſome pariſhes rectorial, and in ſome vicarial tithes. The diſtinction, therefore, of a parſon and vicar, is this: The parſon has for the moſt part the whole right to all the eccleſiaſtical dues in his pariſh; but a vicar has generally an appropriator over him, entitled to the beſt part of the profits, to whom he is in effect perpetual curate, with a ſtanding ſalary. Though in ſome places the vicarage has been conſiderably augmented by a large ſhare of the great tithes; which augmentations were greatly aſſiſted by ſtat. 27 Car. II. c. 8. enacted in favour of poor vicars and curates, which rendered ſuch temporary augmentations (when made by the appropriators) perpetual. The method of becoming a parſon or vicar is much the ſame. To both there are 4 requiſites neceſſary; holy orders, preſentation, inſtitution, and induction. By common law, a deacon, of any age, might be inſtituted and inducted to a parſonage or vicarage; but it was ordained, by ſtat. 13 Eliz. c. 12. that no perſon under 23 years of age, and in deacon's orders, ſhould be preſented to any benefice with cure; and if he were not ordained prieſt within one year after his induction, he ſhould be *ipſo facto* deprived: and now, by ſtat. 13 and 14 Car. II. c. 4. no perſon is capable to be admitted to any benefice, unleſs he hath been firſt ordained a prieſt; and then he is, in the language of the law, a clerk in orders. But if he obtain orders, or a licence to preach, by money or corrupt practices, (which ſeems to be the true, tho' not the common, notion of SIMONY), the perſon giving ſuch orders forfeits 40l. and the perſon receiving, 10l. and is incapable of any eccleſiaſtical preferment for 7 years after. Any clerk may be preſented to a parſonage or vicarage; that is, the patron, to whom the advowſon of the church belongs, may offer his clerk to the biſhop of the dioceſe to be inſtituted. But when he is preſented, the biſhop may refuſe him upon many accounts. As, 1. If the patron is excommunicated, and remains in contempt 40 days; or, 2. If the clerk be unfit: which unfitneſs is of ſeveral kinds. Firſt, with regard to his perſon; as if he be a baſtard, an outlaw, an excommunicate, an alien, under age, or the like. Next, with regard to his faith or morals; as for any particular hereſy, or vice that is *malum in ſe*; but if the biſhop allege only in generals, as that he is *ſchiſmaticus invetératus*, or objects a fault that is *malum prohibitum* merely, as haunting taverns, playing at unlawful games, or the like, it is not good cauſe of refuſal. Or, laſtly, the clerk may be unfit to diſcharge the paſtoral office for want of learning. In any of which caſes, the biſhop may refuſe the clerk. If the caſe the refuſal is for hereſy, ſchiſm, inability of learning, or other matter of eccleſiaſtical cognizance, there the biſhop muſt give notice to the patron of ſuch his cauſe of refuſal, who being uſually a layman, is not ſuppoſed to have knowledge of it; elſe he cannot preſent by lapſe; but if the cauſe be temporal, there he is not bound to give notice. If an action at law be brought by the patron againſt the biſhop for refuſing his clerk, the biſhop muſt aſſign the cauſe. If the caſe be of a temporal nature, and the fact admitted, (for inſtance, outlawry), the judges of the king's court muſt determine its validity, or whether it be ſufficient cauſe of refuſal: but if the fact be denied, it muſt be determined by a jury. If the cauſe be of a ſpiritual nature, (as hereſy, particularly alleged) the fact, if denied, ſhall alſo be determined by a jury: and if the fact be admitted or found, the court, upon conſultation and advice of learned divines, ſhall decide its ſufficiency. If the cauſe be want of learning, the biſhop need not ſpecify in what points the clerk is deficient, but only allege that he is deficient: for ſtat. 9 Edw. II. ſt. 1. c. 13. is expreſs, that the examination of the fitneſs of a perſon preſented to a benefice belongs to the eccleſiaſtical judge. But becauſe it would be nugatory in this caſe to demand the reaſon of refuſal from the ordinary, if the patron were bound to abide by his determination, who has already pronounced his clerk unfit; therefore, if the biſhop returns the clerk to be *inſufficiens in literatura*, the court ſhall write to the metropolitan to re-examine him, and certify his qualifications; which certificate of the archbiſhop is final. If the biſhop hath no objections, but admits the patron's preſentation, the clerk ſo admitted is next to be inſtituted by him; which is a kind of inveſtiture of the ſpiritual part of the benefice; for by inſtitution, the care of the ſouls of the pariſh is committed to the charge of the clerk. When a vicar is inſtituted, he (beſides the uſual forms) takes, if required by the biſhop, an oath of perpetual reſidence; for the maxim of law is, that *vicarius non habet vicarium*: and as the non-reſidence of the appropriators was the cauſe of the perpetual eſtabliſhment of vicarages, the law judges it very improper for them to defeat the end of their conſtitution, and by abſence to create the very miſchief which they were appointed to remedy; eſpecially as, if any profits are to ariſe from putting in a curate and living at a diſtance from the pariſh, the appropriator, who is the real parſon, has undoubtedly the elder title to them. When the ordinary is alſo the patron and confers the living, the preſentation and inſtitution are one and the ſame act, and are called *collatio*

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collation to a benefice. By inſtitution or collation the church is full, ſo that there can be no freſh preſentation till another vacancy, at leaſt in the caſe of a common patron; but the church is not full againſt the king till induction: nay, even if a clerk is inſtituted upon the king's preſentation, the crown may revoke it before induction, and preſent another clerk. Upon inſtitution alſo the clerk may enter on the parſonage houſe and glebe, and take the tithes; but he cannot grant or let them, or bring an action for them, till induction. *See* INDUCTION, § 3. For the rights of a parſon or vicar, in his tithes and eccleſiaſtical dues, ſee TITHES. As to his duties, they are ſo numerous, that it is impracticable to recite them here with any tolerable conciſeneſs or accuracy; but the reader who has occaſion may conſult *B. Gibſon's Codex*, *Johnſon's Clergyman's Vade Mecum*, and *Burn's Eccleſiaſtical Law*. We ſhall therefore only juſt mention the article of reſidence, upon the ſuppoſition of which the law doth ſtyle every parochial miniſter *an incumbent*. By ſtat. 21 Henry VIII. c. 13. perſons willingly abſenting themſelves from their benefices, for one month together, or two months in the year, incur a penalty of 5l. to the king, and 5l. to any perſon that will ſue for the ſame; except chaplains to the king, or others therein mentioned, during their attendance in the houſehold of ſuch as retain them; and alſo except all heads of houſes, magiſtrates, and profeſſors in univerſities, and all ſtudents under 40 years of age reſiding there, *bona fide*, for ſtudy. Legal reſidence is not only in the pariſh, but alſo in the parſonage houſe; for it hath been reſolved, that the ſtatute intended reſidence, not only for ſerving the cure and for hoſpitality, but alſo for maintaining the houſe, that the ſucceſſor alſo may keep hoſpitality there. There is but one way whereby one may become a parſon or vicar; but there are many by which one may ceaſe to be ſo. 1. By death. 2. By ceſſion, in taking another benefice; for by ſtat. 21 Hen. VIII. c. 13. if any one having a benefice of 8l. *per annum*, or upwards, in the king's books, (according to the preſent valuation), accepts any other, the firſt ſhall be adjudged void, unleſs he obtains a diſpenſation; which no one is entitled to have but the chaplains of the king and others therein mentioned, the brethren and ſons of lords and knights, and doctors and bachelors of divinity and law, admitted by the univerſities of this realm. And a vacancy thus made for want of a diſpenſation, is called *ceſſion*. 3. By conſecration; for, when a clerk is promoted to a biſhopric, all his other preferments are void the inſtant that he is conſecrated. But there is a method, by the favour of the crown, of holding ſuch livings *in commendam*. *Commenda*, or *eccleſia commendata*, is a living commended by the crown to the care of a clerk, to hold till a proper paſtor is provided for it. This may be temporary for one, two, or three years, or perpetual, being a kind of diſpenſation to avoid the vacancy of the living, and is called a *commenda retinere*. There is alſo a *commenda recipere*, which is to take a benefice *de novo* in the biſhop's own gift, or the gift of ſome other patron conſenting to the ſame; and this is the ſame to him as inſtitution and induction are to another clerk. 4. By reſignation. But this is of no avail till accepted by the ordinary, into whoſe hands the reſignation muſt be made. 5. By deprivation, either by canonical cenſures, or in purſuance of divers penal ſtatutes, which declare the benefice void, for ſome nonfeaſance or neglect, or elſe ſome malefeaſance or crime: as for ſimony; for maintaining any doctrine in derogation of the king's ſupremacy, or of the 39 articles, or of the book of common prayer; for neglecting after inſtitution to read the liturgy and articles in the church, or make the declarations againſt Popery, or take the abjuration oath; for uſing any other form of prayer than the liturgy of the church of England; or for abſenting himſelf 60 days in one year from a benefice belonging to a Popiſh patron, to which the clerk was preſented by either of the univerſities: in all which, and ſimilar caſes, the benefice is *ipſo facto* void, without any formal ſentence of deprivation.

(1.) * PARSONAGE. *n. ſ.* [from *parſon*.] The benefice of a pariſh.—I have given him the *parſonage* of the pariſh. *Addiſon.*

(2.) *A* PARSONAGE is a rectory, or pariſh church, endowed with a glebe, houſe, lands, tithes, &c. for the maintenance of a miniſter, with cure of ſouls within ſuch pariſh. See PARSON, § 2.

(1.) PARSONS, James, M. D. and F. R. S. a late eminent and learned phyſician, born at Barnſtaple, Devonſhire, in 1705. He was the 9th ſon of Col. Parſons, and was educated at Dublin, whence he went to Paris, and improved himſelf under Aſtruc, Lemery, Hunaud, Le Cat, Bouldue, and Juſſieu. He graduated at Rheims, in 1736; came to London, and was made F. R. S. in 1740. He was alſo a member of the Antiquarian, Medical, and Agricultural Societies. In 1751, he was admitted a licentiate of the College of Phyſicians, and appointed Phyſician to St Giles's infirmary. He alſo aſſiſted Dr James Douglas in anatomy. He died in 1770. He was much eſteemed by the literati at home, and had an extenſive correſpondence with thoſe abroad. His publications are numerous and valuable. Of theſe we ſhall only mention his "*Remains of Japhet; being Hiſtorical Enquiries into the Affinity and origin of the European Languages.*" Its object is to prove the antiquity of the firſt inhabitants of theſe iſlands, as deſcended from Gomer and Magog, above 1000 years before Chriſt, and the affinity of their languages with ſome others.

(2.) PARSONS, Robert, an eminent writer of the church of Rome, born at Nether Stowey, near Bridgewater, in 1546, and educated at Baliol college, Oxford, where he diſtinguiſhed himſelf as a zealous Proteſtant, and an acute diſputant; but being charged by the ſociety with incontinency and embezzling the college money, he went to Flanders, and declared himſelf a Catholic. After travelling to ſeveral other places, he effected the eſtabliſhment of the Engliſh ſeminary at Rome, and procured father Allen to be choſen rector of it. He himſelf was appointed the head of the miſſion to England, to dethrone Q. Elizabeth, and extirpate the Proteſtant religion. He accordingly came over in 1580, and took ſome bold ſteps for that purpoſe, in which he conceal-

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ed himself with great art, travelling about the country to gentlemen's houses, disguised in the habit sometimes of a soldier, sometimes of a gentleman, and at other times like a minister or an apparitor; but father Campian being seized and committed to prison, our author eloped, and went to Rome, where he was made rector of the English seminary. He had long entertained the most sanguine hopes of converting to the Popish faith the young king of Scots, which he considered as the most effectual means of bringing over his subjects to the same religious principles; but finding this impossible, he published in 1594 his celebrated book, under the name of *Doleman*, to overthrow James's title to the crown of England. He died at Rome in 1610, and was buried in the chapel of the English college. He also wrote, 1. A Defence of the Catholic Hierarchy. 2. The Liturgy of the Sacrament of the Mass. 3. A Memorial for the Reformation; and several other tracts.

PARSONSFIELD, a town of the United States, in Maine, York county, on the New Hampshire line, 118 miles N. of Boston. It had 655 citizens in 1795.

PARSONS-TOWN, a town of N. Carolina, 30 miles NE. of Salisbury.

(1.) * PART. *n. s.* [*pars*, Lat.] 1. Something less than the whole; a portion; a quantity taken from a larger quantity.—

Helen's cheeks, but not her heart,
Atalanta's better *part*. *Shak.*

—The people stood at the nether *part* of the mount. *Exodus.*—This law wanted not *parts* of prudent and deep foresight. *Bacon.*—The citizens were for the most *part* slain or taken. *Knolles.*—

Henry had divided
The person of himself into four *parts*. *Daniel.*

—These conclude that to happen often, which happeneth but sometimes; that never, which happeneth but seldom; and that always, which happeneth for the most *part*. *Brown.*—He had very great *parts* of breeding, being a very great scholar in the political *parts* of learning. *Clarendon.*—When your judgment shall grow stronger, it will be necessary to examine, *part* by *part*, those works which have given reputation to the masters. *Dryden.*—

Of heavenly *part*, and *part* of earthly blood;
A mortal woman mixing with a god. *Dryden.*

—Our ideas of extension and number, do they not contain a secret relation of the *parts*? *Locke.* 2. Member.—He fully possessed the revelation he had received from God; all the *parts* were formed, in his mind, into one harmonious body. *Locke.* 3. Particular; distinct species.—Eusebia brings them up to all kinds of labour that are proper for women, as sowing, knitting, spinning, and all other *parts* of housewifery. *Law.* 4. Ingredient in a mingled mass.—Many irregular and degenerate *parts*, by the defective œconomy of nature, continue complicated with the blood. *Blackmore.* 5. That which, in division, falls to each.—

Go not without thy wife, but let me bear
My *part* of danger. *Dryden.*

Had I been won, I had deserv'd your blame;
But sure my *part* was nothing but the shame.
Dryden

6. Proportional quantity.—

'Twas before allaid
With twenty *parts* in water. *Chapman*

7. Share; concern.—Forasmuch as the childre
are partakers of flesh and blood, he also took *pa*
of the same. *Hebrews*, ii. 14.—Sheba said, w
have no *part* in David. 2 *Sam.* xx. 1.—The u
godly made a covenant with death, because the
are worthy to take *part* with it. *Wisdom*, i. 16.
Agamemnon provokes Apollo, whom he w
willing to appease afterwards at the cost of
chilles, who had no *part* in his fault. *Pope.*
Side; party; interest; faction: to take *part*,
to act in favour of another.—

Michael Cassio,
When I have spoken of you dispraisingly,
Hath ta'en your *part*. *Sha*
He strengths his own, and who his *part* d
take. *Dani*
Destiny may take thy *part*,
And may thy fears fulfill. *Dom*
Some other pow'r
Might have aspir'd, and me, tho' mean,
Drawn to his *part*. *Milt*

—Natural ambition might take *part* with rea
and their interest to encourage imitation. *Gl*
ville.—

And make whole kingdoms take her b
ther's *part*. *Wal*
The arm thus waits upon the heart,
So quick to take the bully's *part*;
That one, tho' warm, decides more slow;
That t' other executes the blow. *Pr*

9. Something relating or belonging.—For
mane's *part*, she would have been glad of
fall, which made her bear the sweet burden
Philoclea, but that she feared she might rec
some hurt. *Sidney.*—For my *part*, I would en
tain the legend of my love with quiet ho
Shak.—

For your *part*, it not appears to me,
That you should have an inch of any grout
To build a grief upon. *S*

—For my *part*, I have no servile end in my
bour. *Wotton.*—For my *part*, I think there is
thing so secret that shall not be brought to li
Burnet. 10. Particular office or character.—
pneumatical part, which is in all tangible bo
and hath some affinity with the air, perfor
the *parts* of the air. *Bacon.*—Where the pe
did their *part*, such increase of maize. *Heylyn*

Accuse not nature, she hath done her *pa*
Do thou but thine. *M*

11. Character appropriated in a play.—

That *part*
Was aptly fitted, and naturally performed

—Have you the lion's *part* written? give it
for I am slow of study. *Shak.*—We must not
which *part* we shall act; it concerns us on
be careful, that we do it well. *Taylor.* 12.
ness; duty.—Let them be so furnished an
structed for the military *part*, as they may d
themselves. *Bacon.* 13. Action; conduct.—

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This *part* of his
Conjoins with my diſeaſe. *Shak.*

14. Relation reciprocal.—Inquire not whether the ſacraments confer grace by their own excellency, becauſe they, who affirm they do, require ſo much duty on our *parts*, as they alſo do, who attribute the effect to our moral diſpoſition. *Taylor.*—The ſcripture tells us the terms of this covenant of God's *part* and our's; namely, that he will be our God, and we ſhall be his people. *Tillotſon.*—

It might be deem'd, on our hiſtorian's *part*,
Or too much negligence, or want of art,
If he forgot the vaſt magnificence
Of royal Theſeus. *Dryden.*

15. *In good part; in ill part:* as well done; as ill done.—God accepteth it *in good part*, at the hands of faithful men. *Hooker.* 16. [In the plural.] Qualities; powers; faculties, or accompliſhments.—Who is courteous, noble, liberal, but he that hath the example before his eyes of Amphialus; where are all heroical *parts*, but in Amphialus? *Sidney.*—Such licentious *parts* tend, for the moſt part, to the hurt of the Engliſh. *Spenſer.*—

I conjure thee, by all the *parts* of man,
Which honour does acknowledge. *Shak.*

—Solomon was a prince adorned with ſuch *parts* of mind, and exalted by ſuch a concurrence of all proſperous events to make him magnificent, *South.*—The Indian princes diſcover fine *parts* and excellent endowments, without improvement. *Felton.*—Any employment of our talents, whether of our *parts*, our time or money, that is not ſtrictly according to the will of God, are as great abſurdities and failings. *Law.* 17. [In the plural.] Quarters; regions; diſtricts.—No man was, in our *parts*, ſpoken of, but he, for his manhood. *Sidney.*—When he had gone over thoſe *parts*, he came into Greece. *Acts*, xx. 2.—

All *parts* refound with tumults, plaints, and fears,
And griſly death, in ſundry ſhapes, appears. *Dryden.*

18. *For the moſt part.* Commonly; oftener than otherwiſe.—Of a plain and honeſt nature, *for the moſt part*, they were found to be. *Heylyn.*—

(2.) * PART. *adv.* Partly; in ſome meaſure.—

For the fair kindneſs you have ſhewed me,
And *part* being prompted, by your preſent trouble,
I'll lend you ſomething. *Shak.*

(3.) PART, ALIQUANT, is a quantity which, being repeated any number of times, becomes always either greater or leſs than the whole. Thus 5 is an aliquant part of 17, and 9 an aliquant part of 10, &c. The aliquant part is reſolvable into aliquot parts. Thus 15, an aliquant part of 20, is reſolvable into 10 and 5 a fourth part of the ſame.

(4.) PART, ALIQUOT, is a quantity which, being repeated any number of times, becomes equal to an integer. Thus 6 is an aliquot part of 24, and 5 an aliquot part of 30, &c.

(5.) PART, LOGICAL, is a diviſion for which we are indebted to the ſchoolmen. It refers to ſome univerſal as its whole; in which ſenſe the ſpecies are parts of a genus, and individuals are parts of the ſpecies.

(6.) PART, PHYSICAL, is that which, though it enter the compoſition of a whole, may yet be conſidered apart, and under its own diſtinct idea; in which ſenſe, a continuum is ſaid to conſiſt of parts. Phyſical parts, again, are of two kinds, homogeneous and heterogeneous; the firſt are thoſe of the ſame denomination with ſome other; the ſecond of a different one. (See HOMOGENEOUS, &c.) Parts, again, are diſtinguiſhed into ſubjective, eſſential, and integrant. The ſchoolmen were alſo the authors of this diviſion.

(7.) PARTS OF SPEECH, in grammar, are all the ſorts of words which can enter the compoſition of a diſcourſe. See GRAMMAR, under ENGLISH LANGUAGE. Mr Horne-Tooke's attempt to reduce the number of the Parts of Speech to three, *Nouns*, *Verbs*, and *Adverbs*, is no real improvement in Grammar.

(1.) * *To* PART. *v. a.* 1. To divide; to ſhare; to diſtribute.—All that believed, ſold their goods, and *parted* them to all men. *Acts*, ii. 45.—

Jove himſelf no leſs content wou'd be
To *part* his throne, and ſhare his heav'n with thee. *Pope.*

2. To ſeparate; to diſunite.—Nought but death ſhall *part* thee and me, *Ruth*, i. 17.—

All the world,
As 'twere the buſineſs of mankind to *part* us,
Is arm'd againſt my love. *Dryden.*

3. To break into pieces.—*Part* it in pieces, and pour oil thereon. *Leviticus*, ii. 6. 4. To keep aſunder.—

In the narrow ſeas, that *part*
The French and Engliſh, there miſcarried
A veſſel of our country. *Shak.*

5. To ſeparate combatants.—

King John did fly, an hour or two before
The ſtumbling night did *part* our weary powers. *Shak.*

Jove did both hoſts ſurvey,
And, when he pleas'd to thunder, *part* the fray. *Waller.*

6. To ſecern.—

The liver minds his own affair,
And *parts* and ſtrains the vital juices. *Prior.*

(2.) * *To* PART. *v. n.* 1. To be ſeparated.—

Powerful hands will not *part*
Eaſily from poſſeſſion won with arms. *Milton.*

'Twas for him much eaſier to ſubdue
Thoſe foes he fought with, than to *part* from you. *Dryden.*

2. To quit each other.—

He wrung Baſſanio's hand, and ſo they *parted*. *Shak.*

—This was the deſign of a people, that were at liberty to *part* aſunder, but deſired to keep in one body. *Locke.*—

What! *part*, for ever *part*? unkind Iſmena! *Smith.*

—If it pleaſes God to reſtore me to my health, I ſhall make a third journey; if not, we muſt *part*, as all human creatures have *parted*. *Swift.* 3. To take farewel.—

Ere I could
Give him that *parting* kiſs, which I had ſet
Betwixt two charming words, comes in my father. *Shak.*

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Nuptial bow'r! by me adorn'd, from thee
How shall I *part*, and whither wander? *Milt.*
—They *parted* from him with tears in their eyes. *Swift.* 4. To have share.—As his part is, that goeth down to the battle, so shall his part be, that tarrieth by the stuff; they shall *part* alike. *Isa.* 5. [*Partir*, Fr.] To go away; to set out.—

So *parted* they; the angel up to heaven
From the thick shade, and Adam to his bow'r. *Milton.*

Thy father
Embrac'd me, *parting* for th' Etrurian land. *Dryden.*

6. *To* PART *with*. To quit; to resign; to lose; to be separated from.—

For her sake, I do rear up her boy;
And for her sake, I will not *part with* him. *Shak.*

—An affectionate wife, when in fear of *parting with* her beloved husband, heartily desired of God his life or society. *Taylor.*—

Celia, for thy sake, I *part*
With all that grew so near my heart. *Waller.*

Thou marble hew'st, ere long to *part with* breath,
And houses rear'st, unmindful of thy death. *Sandys.*

—Lixiviate salts, though, by piercing the bodies of vegetables, they dispose them to *part* readily *with* their tincture, yet some tinctures they do not only draw out, but likewise alter. *Boyle.*—The ideas of hunger and warmth are some of the first that children have, and which they scarce ever *part with*. *Locke.*—What a despicable figure must mock patriots make, who venture to be hanged for the ruin of those civil rights, which their ancestors, rather than *part with*, chose to be cut to pieces in the field of battle! *Addison.*—The good things of this world so delight in, as remember, that we are to *part with* them. *Atterbury.*—As for riches and power, our Saviour plainly determines, that the best way to make them blessings, is to *part with* them. *Swift.*

* PARTABLE. *adj.* [from *part*.] Divisible; such as may be parted.—His hot love was *partable* among three other of his mistresses. *Camden's Remains.*

* PARTAGE. *n. s.* [*partage*, Fr.] Division; act of sharing or parting. A word merely French.—This *partage* of things, in an equality of private possessions, men have made practicable out of the bounds of society without compact, only by putting a value on gold and silver. *Locke.*

(1.) * *To* PARTAKE. *v. n.* Preterite, *I partook*: participle passive, *partaken*. [*part* and *take*.] 1. To have share of any thing; to take share with: it is commonly used with *of* before the thing shared. *Locke* uses it with *in*.—

Partake and use my kingdom as your own. *Dryden.*

—How far brutes *partake in* this faculty, is not easy to determine. *Locke.*—Truth and falsehood have no other trial, but reason and proof, which they made use of to make themselves knowing, and so must others too, that will *partake in* their knowledge. *Locke.* 2. To participate; to have something of the property, nature, claim, or right.—The attorney of the dutchy of Lancaste *partakes* partly *of* a judge, and partly of an attorney-general. *Bacon.* 3. To be admitted to; not to be excluded.—

You may *partake of* any thing we say;
We speak no treason. *Sha*

4. To combine; to unite in some bad design. juridical sense.—As it prevents factions, and *pa takings*, so it keeps the rule and administration the laws uniform. *Hale.*

(2.) * *To* PARTAKE. *v. a.* 1. To share; have part in.—

By and by, thy bosom shall *partake*
The secrets of my heart. *Sha*

Let her with thee *partake*, what thou h heard. *Milt*

Let ev'ry one *partake* the general joy. *Dryd*

2. To admit to part; to extend participation t Obsolete.—

My friend, Hight Philemon, I did *partake*
Of all my love, and all my privity. *Spen*

Your exultation *partake* to every one. *Sh*

* PARTAKER. *n. s.* [from *partake*.] 1. A pa ner in possessions; a sharer of any thing; an sociate with: commonly with *of* before the thi partaken.—They whom earnest lets hinder fr being *partakers of* the whole, have yet, throu length of divine service opportunity for access to some reasonable part thereof. *Hooker.*—

Didst thou
Make us *partakers of* a little gain,
That now our loss might be ten times as muc *Sh*

With such she must return at setting light
Tho' not *partaker*, witness of their night. *Pr*

—His bitterest enemies were *partakers of* his ki ness. *Calamy.* 2. Sometimes with *in* before thing partaken: perhaps *of* is best before a thi and *in* before an action.—

Wish me *partaker in* thy happiness,
When thou do'st meet good hap. *Sh*

—We would not have been *partakers* with th *in* the blood of the prophets. *Mat.* xxiii. 30. Accomplice; associate.—Thou consentedst, hast been *partaker* with adulterers. *Psalm* l. 1 He drew with him complices and *partakers*. *con.*

PARTEEN, a town of Ireland, in Clare, M ster, pleasantly seated on the Shannon.

PARTENAY. See PARTHENAY, N° 4.

PARTENI, a river of Asiatic Turkey, wh runs into the Black Sea, near Amasieh, in N lia.

PARTENKERCH, or } a town of Bavari
PARTENKIRK. } Freysing, 6 miles Weilhaim, and 40 SW. of Munich. Lon. 1 E. Lat. 47. 36. N.

* PARTER. *n. s.* [from *part*.] One that p or separates.—The *parter* of the fray was ni which, with her black arms, pulled their malic fights one from the other. *Sidney.*

(1.) * PARTERRE. *n. s.* [*parterre*, Fr.] level division of ground, that, for the most faces the south and best front of an house, ar furnished with greens and flowers. *Miller.*—T

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are as many kinds of gardening, as of poetry; your makers of *parterres* and flower gardens are epigrammatists and sonneteers. *Spectator.*—

The vast *parterres* a thousand hands shall make. *Pope.*

(2.) PARTERRES, in gardening, are of two kinds; the *plain*, and *parterres of embroidery*. Plain parterres are most valuable in England, because of the firmness of the English grass turf, which is superior to that of any other part of the world; and the parterres of embroidery are cut into shell and scroll work, with alleys between them. An oblong, or long square is accounted the most proper figure for a parterre; and a parterre should indeed be always twice as long as it is broad, because, according to the laws of perspective, a long square always sinks to a square; and an exact square always appears less than it really is. As to the breadth of a parterre, it is to be proportionable to the front of the house; but less than 100 feet in breadth is too little. There should be on each side the parterre, a terras walk raised for a view, and the flat of the parterre between the terrases should never be more than 300 feet, at the utmost, in breadth, and about 140 feet in width, with twice and a half that in length, is esteemed a very good size and proportion.

PARTHA, or BARDA, a river of Upper Saxony, which rises 4 miles S. of Grimma, and runs into the Presse, near Leipsic.

PARTHAMASIRIS, a king of Armenia and Partha, who was taken prisoner by Trajan. See PARTHIA, § 9.

PARTHANASPATES, a king of Parthia, crowned by Trajan. See PARTHIA, § 10.

PARTHAON, in fabulous history, the son of Neptune, or of Agenor and Epicaste; and father of OXEUS, STEROPE, &c. by his wife Euryte.

(2.) PARTHENAY, John DE, lord of Soubise, an eminent French commander, born in 1512. He commanded the troops in Italy in 1550; and supported the Protestant cause till his death, in 1566. He left one daughter. See N° 3.

(2.) PARTHENAY, Anne DE, a lady of great genius and learning, and a proficient in Latin and Greek. She married Anthony De Pons, count of Marennes, and was one of the brightest ornaments of the court of Ferrara. She was a Calvinist.

(3.) PARTHENAY, Catharine DE, niece to the preceding, and lady of Soubise, was married in 1568, to the Baron De Pons, and in 1575 to René Visc. Rohan; by whom she had the famous D. of Rohan, who so bravely defended the Protestant cause, during the civil wars under Lewis XIII. She published poems, comedies and tragedies. Her daughter Catharine was eminent for virtue, and married the D. of Deux Ponts. She died in 1607; and her mother in 1631.

(4.) PARTHENAY, in geography, a town of France, in the dept. of the Two Sevres, and late prov. of Poitou. It has a great trade in corn and cattle, and contains about 3,500 citizens. In Aug. 1793, the republicans were defeated by the royalists near it: It is seated on the Thoue, 17 miles S. of Thouars, 21 NNE. of Niort, and 24 W. of Poitiers. Lon. 0. 19. W. Lat. 47. 36. N.

PARTHENIAS, a river of Greece, in Peloponnesus, which runs past Elis. *Pausan.* vi. c. 21.

PARTHENII, citizens of ancient Sparta, who owed their existence to a singular circumstance. During the Messenian war, the Spartans had been ten years absent from their city; and "they had bound themselves by a solemn oath not to return till they had subdued Messenia. The magistrates as well as the *women* of Sparta were alarmed at the danger of such long absence depopulating the country. A law was therefore enacted, that all the young men, who had not taken the oath, should have free access to the unmarried women. The fruits of this promiscuous intercourse were named Παρθενιοι, *Parthenii*, i. e. *Sons of Virgins*. When they grew up, knowing they had no legitimate fathers, and of course, no inheritance, they conspired with the Helots, to massacre the other citizens, and seize their possessions. The conspiracy was discovered, but the Spartans, instead of punishing them, permitted them to emigrate to Italy, where under their leader PHALANTUS, they settled in Magna Græcia, and built TARENTUM; A. A. C. 707. *Justin*, iii, 5. *Strabo*, 6. *Pausan. Plut.*

PARTHENION, a mountain of Peloponnesus, N. of Tegea. *Pausan.*

PARTHENIUM, in botany, BASTARD FEVERFEW, or KIU-HOA of the Chinese, a genus of the pentandria order, belonging to the monœcia class of plants; and in the natural method ranking under the 49th order, *Compositæ*. The male calyx is common and pentaphyllous; the florets of the disk monopetalous: the female has 5 florets of the radius, each with two male florets behind it; the intermediate female superior; the seed is naked. It has been much neglected in Europe, having on account of its smell been banished from our parterres. It is therefore indebted for its culture to the distinguished rank it holds among the Chinese flowers. The skill of the florists, and their continual care, have brought this plant to so great perfection, that Europeans scarcely know it. The elegance and lightness of its branches, the beautiful indentation of its leaves, the splendour and duration of its flowers, seem indeed to justify the *florimania* of the Chinese for this plant. They have, by their attention to its culture, procured more than 300 species or varieties of it: every year produces a new one. A list of the names of all these would be tedious; we shall only say, that in its flowers are united all the possible combinations of shapes and colours. Its leaves are no less various: some are thin, others thick; some very small, and some large and broad; some indented like those of the oak, while others resemble those of the cherry tree; some may be seen in the form of fins, and others serrated on the margin, and tapering towards the points. Parthenium is propagated in China by seeds, and by suckers, grafts, and slips. When the florists have a fine plant, they suffer the seeds to ripen, and about the end of autumn sow them in well prepared earth. Some keep them in this manner, during winter, others sow them in spring. Provided they are watered after the winter, they shoot forth, and grow rapidly. After the parthenium is flowered, all its branches are cut three inches from the root, the earth is hoed around, and a little dung is mixed with it; and when the

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cold becomes ſevere, the plant is covered with ſtraw, or an inverted pot. Thoſe that are in vaſes are tranſported to the green-houſe, where they are uncovered and watered, and they ſhoot forth a number of ſtems: of theſe ſome floriſts leave only two or three, others pull up the ſtalk, together with the whole root, and divide it into ſeveral portions, which they tranſplant elſewhere. Some join two ſlips of different colours, in each of which, towards the bottom, they make a long notch, almoſt to the pith, and afterwards tie them together with packthread, that they may remain cloſely united: by theſe means they obtain beautiful flowers, variegated with whatever colours they chooſe. Parthenium requires a good expoſure, and freſh moiſt air that circulates freely: when ſhut up cloſely, it ſoon languiſhes. The earth in which it is planted ought to be rich, moiſt, and loamy, and prepared with great care. For refreſhing it, the Chineſe uſe only rain or river water; and in ſpring they mix with this water the excrements of ſilk-worms, or the dung of poultry; in ſummer, they leave the feathers of ducks or fowls to infuſe in it for ſeveral days, after having thrown into it a little ſaltpetre; but in autumn they mix with the water a greater or ſmaller quantity of dried excrement reduced to powder, according as the plant appears more or leſs vigorous. During the great heats of ſummer, they water it morning and evening; but they moiſten the leaves only in the morning: they alſo place ſmall fragments of brick round its root, to prevent the water from preſſing down the earth too much. By ſuch minute care, the patient Chineſe have procured from a wild and almoſt ſtinking plant, ſo beautiful and odoriferous flowers. The moſt common ſpecies are,

1. PARTHENIUM HYSTEROPHORUS; and
2. PARTHENIUM INTEGRIFOLIUM.

(1.) PARTHENIUS, an ancient Greek writer, whoſe age is uncertain; but his romance, *De Amatoriis affectionibus*, is extant; and was publiſhed in 12mo at Baſil, in 1531.

(2.) PARTHENIUS, in geography, a mountain of Arcadia, where Telephus had a temple, and on which Atalantis was expoſed. Paul. viii, 54. Ælian. 13.

(3, 4.) PARTHENIUS; 1. a river of Paphlagonia; which runs through Bithynia, and falls into the Euxine Sea, near Sinamum. *(Herodot.)* 2. A river of European Sarmatia.

PARTHENOPÆUS, the ſon of Meleager and Atalanta; one of the 7 chiefs, who accompanied Adraſtus in his expedition againſt Thebes.

(1.) PARTHENOPE, one of the SIRENS.

(2.) PARTHENOPE, an ancient name of NAPLES, ſo called from the Siren, who is ſaid to have founded it.

PARTHENOPEAN REPUBLIC. See NEAPOLITAN REPUBLIC.

(1.) PARTHIA, a celebrated empire of antiquity, bounded on the W. by Media; N. by Hyrcania, E. by Aria, S. by Carmania the deſert; ſurrounded on every ſide by mountains, which ſtill ſerve as a boundary; though its name is now changed, to EYRAC or IRAC; and to diſtinguiſh it from Chaldea, to that of IRAC AGEMI.

(2.) PARTHIA, ANCIENT DIVISIONS OF. By Ptolemy it is divided into 5 diſtricts, viz. Caminſine, or Gamiſene, Parthyene, Choroane, Atticene, and Tabiene. The ancient geographers enumerate many cities in this country. Ptolemy reckons 25 large cities; and it certainly muſt have been very populous, ſince we have accounts of 2000 villages, beſides a number of cities, in this diſtrict being deſtroyed by earthquakes. Its capital was named *Hecatompolis*, from the circumſtance of its having 100 gates. It was a noble and magnificent place; and according to ſome, it ſtill remains under the name of ISPAHAN, the capital of the preſent Perſian empire.

(3.) PARTHIA, HISTORY OF, TILL THE DEATH OF ARSACES. Parthia is by ſome ſuppoſed to have been firſt peopled by the PHETRI or PATHRI, often mentioned in ſcripture, and will have the Parthians to be deſcended from PATHRUSIM the ſon of Miſraim. But however true this may be with regard to the ancient inhabitants, yet it is certain, that thoſe Parthians who were ſo famous in hiſtory, deſcended from the Scythians, though from what tribe we are not certainly informed. The hiſtory of the ancient Parthians is totally loſt. All we know is, that they were firſt ſubject to the Medes, afterwards to the Perſians, and laſtly to Alexander the Great. After his death the province fell to Seleucus Nicator, and was held by him and his ſucceſſors till the reign of Antiochus Theos, about A. A. C. 250. At this time the Parthians revolted, and choſe one Arſaces for their king. The immediate cauſe of this revolt was the lewdneſs of Agathocles, to whom Antiochus had committed the care of all the provinces beyond the Euphrates. This man made an infamous attempt on Tiridates a youth of great beauty; which ſo enraged his brother Arſaces, that he excited his countrymen to revolt; and before Antiochus had leiſure to attend to the rebellion, it became too powerful to be cruſhed. Seleucus Callinicus, the ſucceſſor of Antiochus Theos, attempted to reduce Arſaces; but the latter having had ſo much time to ſtrengthen himſelf, defeated and drove him out of the country. Seleucus ſoon after undertook another expedition againſt Arſaces; but was ſtill more unfortunate; being not only defeated in a great battle, but taken priſoner; and he died in captivity. The day on which Arſaces gained this victory was ever after obſerved among the Parthians as an extraordinary feſtival. Arſaces being thus fully eſtabliſhed in his new kingdom, reduced Hyrcania and ſome other provinces under his power; and was at laſt killed in a battle againſt Ariarathes IV. king of Cappadocia.

(4.) PARTHIA, HISTORY OF, TILL THE DEATH OF ANTIOCHUS ZIDETES, AND SLAUGHTER OF HIS ARMY. Arſaces I. was ſucceeded by his ſon Arſaces II. who, entering Media, made himſelf maſter of that country, while Antiochus the Great was engaged in a war with Antiochus Euergetes king of Egypt. Antiochus, however, was no ſooner diſengaged from that war, than he marched with all his forces againſt Arſaces, and at firſt drove him quite out of Media. But he ſoon returned with an army of 100,000 foot and 20,000 horſe, with which he put a ſtop to the further progreſs of Antiochus; and a treaty was ſoon after

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ter concluded, in which it was agreed, that Arſaces ſhould remain maſter of Parthia and Hyrcania, upon condition of his aſſiſting him in his wars with other nations. Arſaces II. was ſucceeded by his ſon Priapatius, who reigned 15 years, and left three ſons, Phrahates, Mithridates, and Artabanus. Phrahates, the eldeſt, ſucceeded to the throne, and reduced under his ſubjection the Margi, who had never been conquered by any but Alexander the Great. After him, his brother Mithridates was inveſted with the regal dignity. He reduced the Bactrians, Medes, Perſians, Elymeans, and over-ran all the eaſt, penetrating beyond the boundaries of Alexander's conqueſts. Demetrius Nicator, who then reigned in Syria, endeavoured to recover theſe provinces; but his army was entirely deſtroyed, and himſelf taken priſoner, and kept captive till his death; after which Mithridates made himſelf maſter of Babylonia and Meſopotamia, ſo that he now commanded all the provinces between the Euphrates and the Ganges. Mithridates died in the 37th year of his reign, and left the throne to his ſon Phrahates II. who was ſcarce ſettled in his kingdom when Antiochus Zidetes marched againſt him at the head of a numerous army, under pretence of delivering his brother Demetrius, who was ſtill in captivity. Phrahates was defeated in three pitched battles; in conſequence of which he loſt all the countries conquered by his father, and was reduced within the limits of the ancient Parthian kingdom. Antiochus did not, however, long enjoy his good fortune; for his army, on account of their number, amounting to no fewer than 400,000, being obliged to ſeparate to ſuch diſtances as prevented them, in caſe of any ſudden attack, from joining together, the inhabitants, whom they had moſt cruelly oppreſſed, taking advantage of this ſeparation, conſpired with the Parthians to deſtroy them. This was accordingly executed; and the vaſt army of Antiochus, with the monarch himſelf were ſlaughtered in one day, ſcarce a ſingle perſon eſcaping to carry the news to Syria.

(g) PARTHIA, HISTORY OF, TILL THE DEATH OF CRASSUS JUNIOR. Phrahates, elated with his ſucceſs, propoſed to invade Syria; but in the mean time, happening to quarrel with the Scythians, he was by them cut off with his whole army, and was ſucceeded by his uncle Artabanus; who enjoyed his dignity but a very ſhort time, being, a few days after his acceſſion, killed in another battle with the Scythians. He was ſucceeded by Pacorus I. who entered into an alliance with the Romans; and he by Phrahates III. This monarch took under his protection Tigranes the ſon of Tigranes the Great, king of Armenia, gave him his daughter in marriage, and invaded the kingdom with a deſign to place the ſon on the throne of Armenia; but on the approach of Pompey he retired, and ſoon after renewed the treaty with the Romans. Phrahates was murdered by his ſons Mithridates and ORODES; and ſoon after the former was put to death by his brother, who thus became ſole maſter of the Parthian empire. In his reign happened the memorable war with the Romans under Craſſus. This was occaſioned not by any breach of treaty on the ſide of the Parthians, but through the ſhameful avarice of Craſſus. The whole Roman empire had been divided between Cæſar, Pompey and Craſſus; and the eaſtern provinces had fallen to the lot of Craſſus. No ſooner was he inveſted with this dignity, than he reſolved to carry the war into Parthia, to enrich himſelf with the ſpoils of that people, who were then very wealthy. Some of the tribunes oppoſed him, as the Parthians had religiouſly obſerved the treaty; but Craſſus having, by the aſſiſtance of Pompey, carried every thing before him, left Rome in the year 55 B. C. and purſued his march to Brunduſium, where he immediately embarked his troops, though the wind blew very high; and after a difficult paſſage, where he loſt many of his ſhips, he reached the ports of Galatia. From Galatia Craſſus haſtened to Syria, and paſſing through Judea, plundered the temple at Jeruſalem. He then marched with great expedition to the Euphrates, which he croſſed on a bridge of boats: and, entering the Parthian dominions, began hoſtilities. As the enemy had not expected an invaſion, they were quite unprepared for reſiſtance; and therefore Craſſus over-ran all Meſopotamia; and if he had taken advantage of the conſternation which the Parthians were in, might have alſo reduced Babylonia. But inſtead of this, early in autumn, he repaſſed the Euphrates, leaving only 7000 foot and 1000 horſe to garriſon the places he had reduced; and putting his army into winter quarters in Syria, gave himſelf totally up to his favourite paſſion of amaſſing money. Early in ſpring he drew his forces out of their winter quarters, in order to purſue the war with vigour; but during the winter, Orodes had collected a very numerous army, and was well prepared to oppoſe him. Before he entered upon action, however, the Parthian monarch ſent ambaſſadors to Craſſus, to expoſtulate with him on his injuſtice in attacking an ally of the Roman empire; but Craſſus only returned for anſwer, that "they ſhould have his anſwer at Seleucia." Orodes, finding that a war was not to be avoided, divided his army into two bodies. One he commanded in perſon, and marched towards Armenia, in order to oppoſe the king of that country, who had raiſed a conſiderable army to aſſiſt the Romans. The other he ſent into Meſopotamia, under SURENAS, a moſt experienced general, by whoſe conduct all the cities which Craſſus had reduced were quickly retaken. On this ſome Roman ſoldiers, who made their eſcape, and fled to the camp of Craſſus, filled the minds of his army with terror at the accounts of the number, power, and ſtrength, of the enemy. They told their fellow-ſoldiers, that the Parthians were very numerous, brave, and well diſciplined; that it was impoſſible to overtake them when they fled, or eſcape them when they purſued; that their defenſive weapons were proof againſt the Roman darts, and their offenſive weapons ſo ſharp, that no buckler was proof againſt them, &c. Craſſus looked upon all this only as the effects of cowardice: but the ſoldiers, and even many of the officers, were ſo diſheartened, that Caſſius, the ſame who afterwards conſpired againſt Cæſar, and moſt of the legionary tribunes, adviſed Craſſus to ſuſpend his march, and conſider better of the enterpriſe before he proceeded farther in it. But

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Craſſus obſtinately perſiſted in his former reſolution, being encouraged by the arrival of Artabazus king of Armenia, who brought with him 6000 horſe, and promiſed to ſend 10,000 cuiraſſiers, and 30,000 foot, whenever he ſhould ſtand in need of them. At the ſame time, he adviſed him not to march his army through the plains of Meſopotamia, but to take his route over the mountains of Armenia, as in every reſpect much ſafer. This ſalutary advice, however, was rejected, and Craſſus entered Meſopotamia with an army of about 40,000 men. The Romans had no ſooner croſſed the Euphrates, than Caſſius adviſed Craſſus to advance to ſome of thoſe towns in which the garriſons yet remained, to halt and refreſh his troops: or to march along the Euphrates to Seleucia; and thus to prevent the Parthians from ſurrounding him, at the ſame time that he would be plentifully ſupplied with proviſions. Of this advice Craſſus approved, but was diſſuaded by Abgarus king of Edeſſa, whom the Romans took for an ally, but who was in reality a traitor ſent by Surenas to bring about their deſtruction. Under this faithleſs guide, the Romans entered a vaſt green plain divided by many rivulets. Their march proved at firſt very eaſy, but the farther they advanced, the worſe the roads became, inſomuch that they were at laſt obliged to climb a rocky mountains, which brought them to a dry and ſandy plain, where they could neither find food nor water. Abgarus then began to be ſuſpected by the tribunes and other officers, who earneſtly intreated Craſſus not to follow him any longer, but to retreat to the mountains; at the ſame time an expreſs arrived from Artabazus, acquainting the Roman general that Orodes had invaded his dominions with a great army, and that he was obliged to keep his troops at home, to defend his own dominions. The ſame meſſenger adviſed Craſſus to avoid by all means the barren plains, where his army would certainly periſh with hunger and fatigue, and to approach Armenia, that they might join their forces againſt the common enemy. But Craſſus, inſtead of hearkening either to the advice of the king or his own officers, firſt flew into a violent paſſion with the meſſengers of Artabazus, and then told his troops, that they were not to expect the delights of Campania in the moſt remote parts of the world. Thus they continued their march croſs a deſert, the very ſight of which was ſufficient to throw them into deſpair; for they could not perceive the leaſt tree, plant, or brook, not ſo much as a ſingle blade of graſs; nothing all around them but huge heaps of burning ſand. The Romans had ſcarcely got through this deſert, when word was brought them by their ſcouts, that a numerous army of Parthians was advancing full ſpeed to attack them; for Abgarus, under pretence of going out on parties, had often conferred with Surenas, and concerted meaſures with him for deſtroying the Roman army. Upon this advice, which occaſioned great confuſion in the camp, the Romans being quite exhauſted with their long march, Craſſus drew up his men in battalia, following at firſt the advice of Caſſius, who was for extending the infantry as wide as poſſible, that they might take up the more ground, and thus prevent the enemy from ſurrounding them; but Abgarus aſſuring the proconſul that the Parthian forces were not ſo numerous as was repreſented, he changed this diſpoſition, and drew up his troops in a ſquare which faced every way, and had on each ſide ſix cohorts in front. Near each cohort he placed a troop of horſe to ſupport them, that they might charge with the greater ſecurity and boldneſs. Thus the whole army looked more like one phalanx than troops drawn up in manipuli, with ſpaces between them, after the Roman manner. The general himſelf commanded in the centre, his ſon in the left wing, and Caſſius in the right. In this order they advanced to the banks of the *Baliſſus*, the ſight of which was very pleaſing to the ſoldiers who were much haraſſed with drought and heat. Moſt of the officers were for encamping on the banks of this river, to give the troops time to refreſh themſelves; but Craſſus, hurried on by the inconſiderate ardour of his ſon, only allowed the legions to take a meal ſtanding, and before this could be done by all, he ordered them to advance not ſlowly, and halting now and then after the Roman manner, but as faſt as they could move till they came in ſight of the enemy, who, contrary to their expectation, did not appear either ſo numerous or ſo terrible as they had been repreſented; but this was a ſtratagem of Surenas who had concealed his men in convenient places ordering them to cover their arms, leſt their brightneſs ſhould betray them, and, ſtarting up at the firſt ſignal, to attack the enemy on all ſides. The ſtratagem had the deſired effect; for Surenas ſooner gave the ſignal, than the Parthians, riſing as it were out of the ground, with dreadful cries and a moſt frightful noiſe, advanced againſt the Romans, who were greatly ſurpriſed and diſmayed at that ſight; and much more ſo, when the Parthians, throwing off the covering of their arms, appeared in ſhining cuiraſſes, and helmets of burniſhed ſteel, finely mounted on horſes covered over with armour of the ſame metal. At the head appeared young Surenas, in a rich dreſs, who was the firſt who charged the enemy, endeavoring, with his pikemen, to break through the firſt ranks of the Roman army; but finding it too cloſe and impenetrable, the cohorts ſupporting each other, he fell back, and retired in a ſeeming confuſion: but the Romans were much ſurpriſed when they ſaw themſelves ſuddenly ſurrounded on all ſides, and galled with continual ſhowers of arrows. Craſſus ordered his light-armed foot and archers to advance, and charge the enemy; but they were ſoon repulſed, and forced to cover themſelves behind the heavy armed foot. Then the Parthian horſe, advancing near the Romans, began to charge ſhowers of arrows upon them, which did great execution, the legionaries being drawn up in ſuch cloſe order, that it was impoſſible for the enemy to miſs their aim. As their arrows were of an extraordinary weight, and diſcharged with incredible force and impetuoſity, nothing was proof againſt them. The two wings advanced in good order to repulſe them, but to no effect; for the Parthians ſhot their arrows with as great dexterity when their backs were turned, as when they faced the enemy; ſo that the Romans, whether they kept their ground, or purſued the flying enemy, were equally annoyed with their fatal

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rows. The Romans, as long as they had any hopes that the Parthians, after having ſpent their arrows, would either betake themſelves to flight, or engage them hand to hand, ſtood their ground with great reſolution and intrepidity; but when they obſerved that there were many camels in their rear loaded with arrows, and that thoſe who emptied their quivers wheeled about to fill them anew, they began to loſe courage, and to complain of their general for ſuffering them thus to ſtand ſtill, and ſerve only as a butt to the enemy's arrows. Hereupon Craſſus ordered his ſon to advance, and to attack the enemy with 1300 horſe, 500 archers, and 8 cohorts. But the Parthians no ſooner ſaw this choice body (for it was the flower of the army, marching up againſt them, than they wheeled about, and betook themſelves, according to their cuſtom, to flight. Hereupon young Craſſus, crying out, *They fly before us*, puſhed on full ſpeed after them, not doubting but he ſhould gain a complete victory; but when he was at a great diſtance from the main body of the Roman army, he perceived his miſtake; for thoſe who before had fled, facing about, charged him with incredible fury. Young Craſſus ordered his troops to halt, hoping that the enemy, upon ſeeing their ſmall number, would not be afraid to come to a cloſe fight: but herein he was likewiſe greatly diſappointed; for the Parthians, contenting themſelves to oppoſe his front with their heavy armed horſe, ſurrounded him on all ſides; and, keeping at a diſtance, diſcharged inceſſant ſhowers of arrows upon the unfortunate Romans, thus ſurrounded and pent up. The Parthian cavalry, in wheeling about, raiſed ſo thick a duſt, that the Romans could ſcarce ſee one another, far leſs the enemy. In a ſhort time, the place where they ſtood was covered with dead bodies. Some of the unhappy Romans finding their entrails torn, and many overcome by the exquiſite torments they ſuffered, rolled themſelves in the ſand and expired. Others endeavouring to tear out by force the barbed points of the arrows, only increaſed their pain. Moſt of them died in this manner; and thoſe who outlived their companions were no more in a condition to act; for when young Craſſus exhorted them to march up to the enemy, ſome ſhowed him their wounded bodies, others their hands nailed to their bucklers, and ſome their feet pierced through and pinned to the ground: ſo that it was equally impoſſible for them to attack the enemy or defend themſelves. The young commander, therefore, leaving his infantry to the mercy of the enemy, advanced at the head of the cavalry againſt their heavy-armed horſe. The thouſand Gauls whom he had brought with him from the weſt, charged the enemy with incredible boldneſs and vigour: but their lances did little execution on men armed with cuiraſſes, and horſes covered with tried armour: however, they behaved with great reſolution; for ſome of them taking hold of the enemy's ſpears, and cloſing with them, threw them off their horſes on the ground, where they lay without being able to ſtir, by the great weight of their armour; other's diſmounting, crept under the enemy's horſes, and thruſting their ſwords into their bellies, made them throw their riders. Thus the brave Gauls fought, though greatly haraſſed with heat and thirſt, which they were not accuſtomed to bear, till moſt of their horſes were killed, and their commander dangerouſly wounded. They then thought it adviſable to retire to their infantry, which they no ſooner joined, than the Parthians inveſted them anew, making a moſt dreadful havock of them with their arrows. In this deſperate condition, Craſſus, ſpying a riſing ground at a ſmall diſtance, led the remains of his detachment thither, with a deſign to defend himſelf in the beſt manner he could, till ſuccours ſhould be ſent him from his father. The Parthians purſued him; and having ſurrounded him in his new poſt, continued ſhowering arrows upon his his men, till moſt of them were either killed or diſabled, without being able to make uſe of their arms, or give the enemy proofs of their valour. Young Craſſus had two Greeks with him, who had ſettled in the city of Carrhæ. Theſe touched with compaſſion, at ſeeing ſo brave a man reduced to ſuch ſtraits, preſſed him to retire with them to the city of Iſchnes, which had declared for the Romans; but the young Roman rejected their propoſal, ſaying, that he would rather die a thouſand times than abandon ſo many valiant men, who ſacrificed their lives for his ſake. He then embraced and diſmiſſed them, giving them leave to retire and ſhift for themſelves. As for himſelf, having now loſt all hopes of being relieved, and ſeeing moſt of his men and friends killed round him, he gave way to his grief; and, not being able to make uſe of his arm, which was ſhot thro' with a large barbed arrow, he preſented his ſide to one of his attendants, and ordered him to put an end to his unhappy life. His example was followed by Cenſorius a ſenator, by Megabaccus an experienced and brave officer, and by moſt of the nobility who ſerved under him: 500 ſoldiers were taken priſoners, and the reſt cut in pieces.

(6.) PARTHIA, HISTORY OF, TILL THE DEATH OF CRASSUS SENIOR. The Parthians, having thus cut off or taken the whole detachment commanded by young Craſſus, marched without delay againſt his father, who, upon the firſt advice that the enemy fled before his ſon, and were cloſely purſued by him, had taken heart, the more becauſe thoſe who had remained to make head againſt him ſeemed to abate much of their ardour, the greateſt part of them having marched with the reſt againſt his ſon. Wherefore, having encouraged his troops, he had retired to a ſmall hill in his rear, to wait there till his ſon returned from the purſuit. Young Craſſus had diſpatched frequent expreſſes to his father, to acquaint him with the danger he was in; but they had fallen into the enemy's hands, and been by them put to the ſword; only the laſt, who had eſcaped with great difficulty, arrived ſafe, and informed him that his ſon was loſt if he did not ſend him an immediate and powerful reinforcement. This news threw Craſſus into the utmoſt conſternation; But the deſire he had of ſaving his ſon, and ſo many brave Romans who were under his command, made him immediately decamp, and march to their aſſiſtance. He was not gone far before he was met by the Parthians, who, with loud ſhouts, and ſongs of victory, gave, at a diſtance, the unhappy

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happy father notice of his misfortune. They had cut off young Craſſus's head, and, having fixed it on the point of a lance, were advancing full ſpeed to fall on the father. As they drew near, Craſſus was ſtruck with the diſmal ſight, but behaved like an hero: for he had the preſence of mind to ſtifle his grief and to cry out to the diſmayed troops, "This misfortune is entirely mine; the loſs of one man cannot affect the victory: Let us charge, let us fight like Romans: if you have any compaſſion for a father who has loſt a ſon whoſe valour you admired, let it appear in your rage and reſentment againſt theſe inſulting barbarians." Thus Craſſus ſtrove to reanimate his troops; but their courage was quite ſunk, as appeared from the faint and languiſhing ſhout which they raiſed, according to cuſtom, before the action. When the ſignal was given, the Parthians, keeping to their old way of fighting, diſcharged clouds of arrows on the legionaries, without drawing near them, which did ſuch dreadful execution, that many of the Romans, to avoid the arrows, which occaſioned a long and painful death, threw themſelves in deſpair, on the enemy's heavy-armed horſe, ſeeking from their ſpears a more ſpeedy death. Thus the Parthians continued plying them inceſſantly with their arrows till night, when they left the field of battle, crying out, that they would allow the father one night to lament the death of his ſon. This was a melancholy night for the Romans. Craſſus kept himſelf concealed from the ſoldiers, lying not in the general's tent, but in the open air, and on the bare ground, with his head wrapped up in his military cloak: and was, in that forlorn condition, ſays Plutarch, a great example, to the vulgar, of the inſtability of fortune; to the wiſe, a ſtill greater, of the pernicious effects of avarice, temerity, and ambition. Octavius, one of his lieutenants, and Caſſius, endeavoured to raiſe him up and conſole him: but, ſeeing him quite ſunk under his affliction, and deaf to all comfort, they ſummoned a council of war, compoſed of all the chief officers; wherein it was unanimouſly reſolved, that they ſhould decamp before day break, and retire to Carrhæ, which was held by a Roman garriſon. Agreeably to this reſolution, they began their march as ſoon as the council broke up; which produced dreadful outcries among the ſick and wounded, who, perceiving that they were to be abandoned to the mercy of the enemy, filled the camp with their complaints and lamentations: but their cries did not ſtop the march of the others, which indeed, was very ſlow, to give the ſtragglers time to come up. There were only 300 light horſe, under the command of one Ægnatius, who purſued their march without ſtopping. Theſe arriving at Carrhæ about midnight, Ægnatius calling to the centinels on the walls, deſired them to acquaint Coponius, governor of the place, that Craſſus had fought a great battle with the Parthians; and, without letting them know who he was, continued his march to the bridge of Zeugma; which he paſſed, and thus ſaved his troops, but was much blamed for abandoning his general. However, the meſſage he ſent to Coponius was of ſome temporary ſervice to Craſſus. For that commander, wiſely conjecturing, from the manner in which the unknown perſon had given him that intelligence, that ſome misfortune had befallen Craſſus, immediately ordered his garriſon to ſtand to their arms; and, marching out, met Craſſus, and conducted him and his army into the city: for the Parthians, though informed of his flight, did not offer to purſue him; but when it was day, they entered the Roman camp, and having put all the wounded, to the number of 4000, to the ſword, diſperſed their cavalry all over the plain, in purſuit of the fugitives. One of Craſſus's lieutenants, named *Vargunteius*, having ſeparated in the night from the main body of the army, with four cohorts, miſſed his way, and was overtaken by the enemy; at whoſe approach he withdrew to a neighbouring hill, where he defended himſelf, with great valour, till all his men were killed, except 20, who made their way through the enemy ſword in hand, and got ſafe to Carrhæ: but Vargunteius himſelf was killed. In the mean time Surenas, not knowing whether Craſſus and Caſſius had retired to Carrhæ, or choſen a different route; in order to be informed of the truth, diſpatched a meſſenger, who ſpoke the Roman language, to the city of Carrhæ, enjoining him to approach the walls, and acquaint Craſſus himſelf, or Caſſius, that the Parthian general was inclined to enter into a treaty with them, and demanded a conference. Both the proconſul and his quæſtor Caſſius ſpoke from the walls with the meſſenger; and accepting the propoſal with great joy, deſired that the time and place for an interview might be immediately agreed upon. The meſſenger withdrew, promiſing to return quickly with an anſwer from Surenas: but that general no ſooner underſtood that Craſſus and Caſſius were in Carrhæ, then he marched thither with his whole army; and, having inveſted the place, acquainted the Romans, that if they expected any favourable terms, they muſt deliver up Craſſus and Caſſius to him in chains. Hereupon a council of the chief officers being ſummoned, it was thought expedient to retire from Carrhæ that very night, and ſeek for another aſylum. It was of the utmoſt importance that none of the inhabitants of Carrhæ ſhould be acquainted with their deſign till its execution; but Craſſus, whoſe conduct was infatuated, imparted the whole matter in confidence to one Andromachus, chooſing him for his guide, and relying on the fidelity of a man whom he ſcarce knew. Andromachus immediately acquainted Surenas with the deſign of the Romans; promiſing at the ſame time, as the Parthians did not engage in the night, to manage matters ſo, that they ſhould not get out of his reach before day-break. Purſuant to his promiſe, he led them through many windings and turnings, till he brought them into deep marſhy grounds, where the infantry were up to the knees in mire. Then Caſſius, ſuſpecting that their guide had led them into thoſe bogs with no good deſign, refuſed to follow him any longer; and, returning to Carrhæ, took his route towards Syria, which he reached with 500 horſe. Octavius, with 5000 men under his command, being conducted by truſty guides, gained the mountains called by Plutarch and Appian *Sinnaci*, and there intrenched himſelf before break

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break of day. As for Craſſus, he was ſtill engaged in the marſhes, when Surenas, at the riſing of the ſun, overtook him, and inveſted him with his cavalry. The proconſul had with him 4 cohorts, and a ſmall body of horſe; and with theſe he gained, in ſpite of all oppoſition, the ſummit of another hill within 12 furlongs of Octanus; who, ſeeing the danger that threatened his general, flew to his aſſiſtance, firſt with a ſmall number of his men, but was ſoon followed by all the reſt, who, quitted their poſt, tho' very late, and charging the Parthians with great fury, diſengaged Craſſus, and obliged the enemy to abandon the hill. Upon the retreat of the enemy, they formed themſelves into an hollow ſquare; and placing Craſſus in the middle, made a kind of rampart round him with their bucklers, reſolutely reſolving, that none of the enemy's arrows ſhould touch their general's body, till they were all killed fighting in his defence. Surenas, loth to let ſo fine a prey eſcape, ſurrounded the hill, and deſigned to make a new attack: but finding the Parthians very backward, and not doubting but the Romans, when night came on, would renew their march, and get out of his reach, he had recourſe again to artifice; and declared to ſome priſoners, whom he ſoon after ſet at liberty, that he was inclined to treat with the proconſul of a peace; and that it was better to come to reconciliation with Rome, than to ſow the ſeeds of an eternal war, by ſhedding the blood of one of her generals. Agreeably to this declaration, Surenas advanced towards the hill where the Romans were poſted, attended only by ſome officers; and, with his bow unbent, and open hand, invited Craſſus to an interview. So ſudden a change ſeemed very ſuſpicious to the proconſul; who therefore declined the interview, till he was forced, by his own ſoldiers, to intruſt himſelf to an enemy whoſe treachery they had experienced; for the legionaries, flocking round him, not only abuſed him in an outrageous manner, but even menaced him if he did not accept of the propoſals made him by the Parthian general. Seeing, therefore, that his troops were ready to mutiny, he began to advance, with his arms or guards, towards the enemy, after having called the gods and his officers to witneſs the violence his troops offered him; and intreated thoſe preſent, but eſpecially Octavius and Petronius, two of the chief commanders, for the ſake of Rome, their common mother, not to revenge his death, the ſhameful behaviour of the Roman legionaries. Octavius and Petronius refolve to let him go alone; but attended him down the hill, as did likewiſe ſome others, keeping at a diſtance. Craſſus was met at the foot of the hill by two Greeks; who, alighting from their horſes, ſaluted him with great reſpect: and deſired him, in the Greek manner, to ſend ſome of his attendants, who might aſſiſt him; that Surenas, and thoſe who were with him, came without arms. Hereupon he ſent two brothers of the Roſcian family; whom, having cauſed them to be ſeized, addreſſed to the foot of the hill, mounted on a fine horſe, and attended by the chief officers of his army. Craſſus, who waited for the return of his two meſſengers, was ſurpriſed to ſee himſelf prevented by Surenas in perſon, when he leaſt expected it. The Parthian general, perceiving, as he approached Craſſus, that he was on foot, cried out, in a ſeeming ſurpriſe, "What do I ſee? a Roman general on foot, and we on horſeback! Let an horſe be brought for him immediately." "You need not be ſurpriſed (replied Craſſus); we are come only to an interview, each after the cuſtom of his country." "Very well (anſwered Surenas), there ſhall be henceforth a laſting peace between king Orodes and the people of Rome; but we muſt ſign the articles of it on the banks of the Euphrates; for you Romans do not always remember your conventions." Craſſus would have ſent for an horſe: but a very ſtately one, with a golden bit, and richly capariſoned, was brought to him by a Parthian; which Surenas preſenting to him, "Accept this horſe from my hands (ſaid he), which I give you in the name of my maſter king Orodes." He had ſcarce uttered theſe words, when ſome of the king's officers, taking Craſſus by the middle, ſet him upon the horſe, which they began to whip with great violence before them in order to make him quicken his pace. Octavius, offended at this inſult, took the horſe by the bridle; Petronius, and the few Romans who were preſent, ſeconded him, and flocking all round Craſſus, ſtopped his horſe. The Parthians endeavoured to repulſe them, and clear the way for the proconſul; whereupon they began to juſtle and puſh one another with great tumult and diſorder. At laſt, Octavius, drawing his ſword, killed one of the king's grooms; but at the ſame time another, coming behind Octavius, with a blow laid him dead at his feet. Both parties fought with great reſolution, the Parthians ſtrive to carry off Craſſus, and the Romans to reſcue him out of their hands. In this ſcuffle moſt of the Romans who came to the conference were killed; and among the reſt Craſſus himſelf, but whether by a Roman or a Parthian is uncertain. Upon his death, the reſt of the army either ſurrendered to the enemy, or, diſperſing in the night, were purſued, and put to the ſword. The Romans loſt in this campaign at leaſt 30,000 men; of whom 20,000 were killed, and 10,000 taken priſoners.

(7.) PARTHIA, HISTORY OF, TILL THE DEATH OF ORODES. When the battle of Carrhæ was fought, king Orodes was in Armenia, where he had made peace with Artabazus. While the two kings were ſolemnizing their new alliance with expenſive and public feaſts, Syllaces, a Parthian officer, whom Surenas had ſent with the news of his late victory, and the head of Craſſus as a proof of it, arrived in the capital of Armenia. The tranſports of joy which Orodes felt at this ſight, and theſe news, are not to be expreſſed; and the lords of both kingdoms, who attended their ſovereigns, raiſed loud and repeated ſhouts of joy. Syllaces was ordered to give a more particular and diſtinct account of that memorable action; which when he had done, Orodes commanded melted gold to be poured into Craſſus's mouth; reproaching him thereby with avarice, which had been always his predominant paſſion. Surenas did not long enjoy the pleaſure of his victory; for Orodes, jealous of his power and authority among the Par-

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thians, ſoon after cauſed him to be put to death. Pacorus, the king's favourite ſon, was put at the head of the army; and, agreeable to his father's directions, invaded Syria: but he was driven out with great loſs by Cicero and Caſſius, the only general who ſurvived the death of Craſſus. After this we find no mention of the Parthians, till the time of the civil war between Cæſar and Pompey, when the latter ſent ambaſſadors to ſolicit ſuccour againſt his rival. This Orodes was willing to grant, upon condition that Syria was delivered up to him; but as Pompey would not conſent to ſuch a propoſal, the ſuccours were not only denied, but, after the battle of Pharſalia, he put Lucius Hirtius in irons, whom Pompey had again ſent to aſk aſſiſtance, or at leaſt to deſire leave to ſhelter himſelf in the Parthian dominions. Cæſar is ſaid to have meditated a war againſt the Parthians, which in all probability would have proved fatal to them. His death delivered them from this danger. But, not long after, the eaſtern provinces, being grievouſly oppreſſed by Mark Antony, roſe up in arms; and having killed the taxgatherers, invited the Parthians to join them, and drive out the Romans. They very readily accepted the invitation, and croſſed the Euphrates with a powerful army, under the command of Pacorus and Labienus a Roman general of Pompey's party. At firſt they met with great ſucceſs, over-ran all Aſia Minor, and reduced all the countries as far as the Helleſpont and Ægæan Sea, ſubduing likewiſe Phœnicia, Syria, and even Judæa. They did not however long enjoy their new conqueſts: for being elated with their victories, and deſpiſing the enemy, they engaged Ventidius, Antony's lieutenant, before Labienus had time to join them, and were utterly defeated. This ſo diſheartened Labienus's army, that they all abandoned him; and he himſelf, being thus obliged to wander from place to place in diſguiſe, was at laſt taken and put to death at Cyprus. Ventidius purſuing his advantage, gained ſeveral other victories; and at laſt entirely defeated the Parthian army under Pacorus, cutting almoſt the whole of them in pieces, and the prince himſelf among the reſt. He did not, however, purſue this laſt victory as he might have done; being afraid of giving umbrage to Antony, who had already become jealous of the great honour gained by his lieutenant. He therefore contented himſelf with reducing thoſe places in Syria and Phœnicia, which the Parthians had taken in the beginning of the war, until Antony arrived to take the command of the army upon himſelf. Orodes was almoſt diſtracted with grief, on receiving the dreadful news of the loſs of his army and the death of his favourite ſon. However, when time had reſtored the uſe of his faculties, he appointed Phrahates, the eldeſt, but the moſt wicked, of all his children, to ſucceed him in the kingdom, admitting him at the ſame time to a ſhare of the ſovereign authority with himſelf. The conſequence of this was, that Phrahates very ſoon attempted to poiſon his father with hemlock. But this, contrary to expectation, proving a cure for the dropſy, which an exceſs of grief had brought upon the king, the unnatural ſon had him ſtifled in bed; and ſoon after not only murdered all his own brethren, who were 30 in number, but cut off all the reſt of the royal family, not ſparing even his own eldeſt ſon, leſt the diſcontented Parthians ſhould place him, as he was already of age on the throne.

(8.) PARTHIA, HISTORY OF, TILL THE DEFEAT AND RETREAT OF M. ANTONY. Many of the chief lords of Parthia, being intimidated by the cruelty of Phrahates, retired into foreign countries: and among theſe was one Monœſes, a perſon of great diſtinction, as well as ſkill and experience in war. This man, having fled to Antony ſoon gained his confidence, and was by him eaſily prevailed upon to engage in a war againſt his countrymen. But Phrahates, juſtly dreading the conſequences of ſuch a perſon's defection, ſent a ſolemn embaſſy to invite him home on ſuch terms as he ſhould think fit to accept: which greatly provoked Antony; though he did not hinder him from returning, leſt others ſhould thereby be encouraged from coming over to him. He therefore diſmiſſed him with great civility, ſending ambaſſadors at the ſame time to Phrahates to treat of a peace. Thus he hoped to divert the Parthian monarch's attention from making the neceſſary preparations for war, and that he ſhould be able to fall upon him in the ſpring when he was in no condition to make reſiſtance. But herein he was greatly diſappointed; for on his arrival at the Euphrates, which he intended to paſs, and enter the Parthian dominions on that ſide, he found all the paſſes ſo well guarded, that he thought proper to enter Media, with a deſign firſt to reduce that country, and then to enter Parthia. This plan had been ſuggeſted to him by Artabazus king of Armenia, who in the end betrayed him; for inſtead of conducting the army the ſtraight way from Zeugma on the Euphrates, to the paſſes which parted Media from Armenia, and which was about 500 miles diſtant from the place where he firſt ſet out, Artabazus led them over rocks and mountains ſo far about, that the army marched above 1000 miles before they reached the borders of Media, where they intended to begin the war. Thus they were not only greatly fatigued, but had not ſufficient time, the year being far ſpent, to put in execution the deſign on which they had come. However, as Antony was impatient to get back to Cleopatra, he left behind him moſt of the baggage of the army, and 300 waggons loaded with battering rams and other military engines for ſieges; appointing Statianus, one of his lieutenants, with a body of 10,000 men, to guard them and to bring them, by ſlower marches, after the army. With the reſt of the forces he marched more than 300 miles before the reſt, without allowing his men any reſpite till he arrived at Praaſpa or Phrahata, the capital of Media, which he immediately inveſted. But the Parthians, finding that he could not make any progreſs without his military machines, paſſed by his army in order to attack Statianus; which they did with ſuch ſucceſs, that the body commanded by him were all to a man cut off, and all their military engines taken, among which was a battering ram 140 feet long. Antony, notwithſtanding this diſaſter, continued the ſiege of Praaſpa; but was daily harraſſed by ſallies of the garriſon from within, and the enemy's army without. At laſt he began

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think of a retreat, when his provisions were almost exhausted, finding it impossible to become master of the city. But as he was to march 300 miles through the enemy's country, he thought proper first to send ambassadors to the Parthian monarch, acquainting him that the Romans were willing to allow him a peace, provided he would restore the standards and prisoners taken at Carrhæ. Phrahates received the ambassadors, sitting on a golden throne; and, after having bitterly inveighed against the avarice and unbounded ambition of the Romans, told them that he would not part with the standards and prisoners; but that if Antony would immediately raise the siege of Praaspa, he would suffer him to retire unmolested. Antony, who was reduced to great straits, no sooner received this answer than he broke up the siege, and marched towards Armenia. However, Phrahates was not so good as his word; for the Romans were attacked by the enemy no fewer than 18 times on their march, and were thrice in the utmost danger of being cut off. A famine also raged in the Roman army; upon which they began to desert to the enemy; and indeed Antony would probably have been left by himself, had not the Parthians, in a very cruel as well as impolitic manner, murdered all those who fled to them in sight of the rest. At last, after having lost 32,000 men, and being reduced to such despair that he was with difficulty prevented from laying violent hands on himself, he reached the river Araxes; when his men, finding themselves out of the reach of the enemy, fell down on the ground, and kissed it with tears of joy.

(9.) PARTHIA, HISTORY OF, TILL THE REDUCTION OF ITS CAPITAL BY TRAJAN. Antony was no sooner gone, than the kings of Media and Parthia quarrelled about the booty they had taken; and after various contests Phrahates reduced all Media and Armenia. After this, being elated with his conquests, he oppressed his subjects in such a cruel and tyrannical manner, that a civil war took place; in which the competitors were alternately driven out and restored, till A. D. 50, when one Vologeses, the son of Gortazes, a former king, became peaceable possessor of the throne. He carried on some wars against the Romans, but with very indifferent success, and at last gladly consented to a renewal of the ancient treaties with that powerful people. From this time the Parthian history affords nothing remarkable till the reign of the emperor Trajan; when the Parthian king, COSROES, infringed the treaty with Rome, by driving out the king of Armenia. Upon this, Trajan, who was glad of any pretence to quarrel with the Parthians, immediately hastened into Armenia. His arrival there was so sudden and unexpected, that he reduced almost the whole country without opposition; and took prisoner Parthamasiris, the king whom the Parthians had set up. After this he entered Mesopotamia, took the city of Nisibis, and reduced to a Roman province the whole of that wealthy country. Early in the spring of the following year, Trajan, who had kept his winter quarters in Syria, took the field again; but was warmly opposed by Cosroes. He found him encamped on the banks of the Euphrates, with a design to dispute his passage; which he did with such vigour, that the emperor, after having several times attempted to ford that river, and been always repulsed with great slaughter, was obliged to cause boats to be built on the neighbouring mountains, which he privately conveyed from thence on carriages to the water side; and having, in the night time, formed a bridge with them, he passed his army the next day; but not without great loss and danger, the Parthians harassing his men the whole time with incessant showers of arrows, which did great execution. Having gained the opposite bank, he advanced boldly into Assyria, the Parthians flying everywhere before him, and made himself master of Arbela. Thence he pursued his march; subduing, with incredible rapidity, countries where the Roman standard had never been displayed before. Babylonia voluntarily submitted to him. The city of Babylon, was, after a vigorous resistance, taken by storm; by which means he became master of all Chaldea and Assyria, the two richest provinces of the Parthian empire. From Babylon he marched to Ctesiphon, the metropolis of the Parthian monarchy; which he besieged and at last reduced. But as to the particulars of these great conquests, we are quite in the dark: this expedition, however glorious to the Roman name, being rather hinted at than described, by the writers of those times.

(10.) PARTHIA, HISTORY OF, TILL THE REDUCTION OF THE WHOLE COUNTRY BY TRAJAN. While Trajan was thus making war in the heart of the enemy's country, Cosroes, having recruited his army, marched into Mesopotamia, with a design to recover that country, and cut off all communication between the Roman army and Syria. On his arrival in that province, the inhabitants flocked to him from all parts; and most of the cities, driving out the garrisons left by Trajan, opened their gates to him. Hereupon the emperor detached Lucius and Maximus, two of his chief commanders, into Mesopotamia, to keep such cities in awe as had not revolted, and to open a communication with Syria. Maximus was met by Cosroes; and having ventured a battle, his army was entirely defeated, and himself killed. But Lucius being joined by Euricius and Clarius, two other commanders sent by Trajan with fresh supplies, gained considerable advantages over the enemy, and retook the cities of Nisibis and Seleucia, which had revolted. And now Trajan, seeing himself possessed of all the best and most fruitful provinces of the Parthian empire, but at the same time being well apprised that he could not, without a vast expence, maintain his conquests, nor keep in subjection so fierce and warlike a people, at such a distance from Italy; resolved to set over them a king of his own choosing, who should hold the crown of him and his successors, and acknowledge them as his lords and sovereigns. With this view he repaired to Ctesiphon; and having there assembled the chief men of the nation, he crowned one of the royal family, named PARTHANASPATES, king of Parthia, obliging all who were present to pay him their allegiance. He chose Parthanaspates, because that prince had joined him at his first entering the Parthian dominions, conducted him with great fidelity, and

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shown on all occasions an extraordinary attachment to the Romans. Thus the Parthians were at last subdued, and their kingdom made tributary to Rome.

(11.) PARTHIA, HISTORY OF, TO ITS CONQUEST BY CASSIUS. The Parthians did not long continue in this state of subjection: for the no sooner heard of Trajan's death, which happened shortly after, than, taking up arms, they drove Parthamaspates from the throne; and recalling Cosroes, who had retired into the country of the Hyrcanians, openly revolted from Rome. Adrian, who was then commander in chief of all the forces in the east, and soon after acknowledged emperor by the army, did not care, though he was at that time in Syria with a numerous army, to engage in a new war with the Parthians; but contented himself with preserving the ancient limits of the empire, without any ambitious prospects of further conquests. Therefore, in the beginning of his reign, he abandoned those provinces beyond the Euphrates which Trajan had conquered; withdrew the Roman garrisons from Mesopotamia; and, for the greater safety of other places, made the Euphrates the boundary of and barrier in those parts, posting his legions along the banks of that river. Cosroes died after a long reign, and was succeeded by his eldest son Vologeses II: in whose reign the Alani breaking into Media, then subject to the Parthians, committed there great devastations; but were prevailed upon, with rich presents sent them by Vologeses, to abandon that kingdom, and return home. Upon their retreat, Vologeses, having no enemy to contend with at home, fell unexpectedly upon Armenia; surprised the legions there; and having cut them all in pieces to a man, entered Syria; defeated with great slaughter Attilius Cornelianus, governor of that province; and advanced without opposition to the neighbourhood of Antioch; putting everywhere the Romans, and those who favoured them, to the sword. Hereupon the emperor Verus, by the advice of his colleague Antoninus surnamed the *Philosopher*, leaving Rome, hastened into Syria: and having driven the Parthians out of that province, ordered Statius Priscus to invade Armenia; and Cassius, with Martius Verus, to enter the Parthian territories, and carry the war into the enemy's country. Priscus made himself master of Artaxata; and in one campaign drove the Parthians, though not without great loss on his side, quite out of Armenia. Cassius, on the other hand, having in several encounters defeated Vologeses, though he had an army of 400,000 men under his command, reduced, in four years time, all those provinces which had formerly submitted to Trajan, took Seleucia, burnt and plundered the famous cities of Babylon and Ctesiphon, with the stately palaces of the Parthian monarchs, and struck terror into the most remote provinces of that great empire. On his return, he lost above half the number of his forces by sickness and famine; so that, after all, the Romans, as Spartianus observes, had no great reason to boast of their victories and conquests.

(12.) PARTHIA, HISTORY OF, TO ITS CONQUEST BY SEVERUS. However, Verus, who had never stirred during the whole time of the war from Antioch and Daphne, took upon him the lofty titles of *Parthicus* and *Armenicus*, as if he had acquired them in the midst of his pleasures and debaucheries. After the revolt and death of Cassius Antoninus the Philosopher repaired into Syria to settle the affairs of that province. On his arrival there, he was met by ambassadors from Vologeses who having recovered most of the provinces subdued by Cassius, and being unwilling either to part with them or engage in a new war, solicited the emperor to confirm him in the possession of them, promising to hold them of him, and to acknowledge the sovereignty of Rome. To these terms Antoninus readily agreed, and a peace was accordingly concluded between the two empires which Vologeses did not long enjoy, being soon after carried off by a distemper, and not murdered by his own subjects, as we read in Constantine Manasses, who calls him *Belegeses*. Upon his death Vologeses III. the son of his brother Sanatruces and grandson of Cosroes, was raised to the throne. He sided with Niger against the emperor Severus who thereupon having settled matters at home marched with all his forces against him; and advancing to the city of Ctesiphon, whither he had retired, laid close siege to that metropolis. Vologeses made a most gallant defence; but the city after a long siege, and much bloodshed on both sides, was at length taken by assault. The king's treasures, with his wives and children, fell into the emperor's hands: but Vologeses himself had the good luck to make his escape; which was a great disappointment to Severus, who immediately dispatched an express to acquaint the senate, with the success that had attended him in his expedition, against the only nation that was then formidable to Rome.

(13.) PARTHIA, HISTORY OF, TO ITS CONQUEST BY THE PERSIANS. He had no sooner crossed the Euphrates, than Vologeses recovered all the provinces, except Mesopotamia, which he had ceded. These expeditions were chargeable to the Romans, and cost them much blood, without reaping any advantages from them; for as they had not sufficient forces to keep in awe the provinces they had subdued, the inhabitants, greatly attached to the family of Arsaces, never failed to return to their ancient obedience as soon as the Roman armies were withdrawn. Vologeses was soon after engaged in a war still more troublesome and destructive, with his brother Artabanus, who encouraged by some of the discontented nobles attempted to rob him of the crown, and place on his own head. Vologeses gained several victories over his brother and rebellious subjects; but died before he could restore the empire to its former tranquillity. Artabanus, who had a numerous army at his devotion, did not meet with any opposition in seizing the throne, vacant by the death of his brother, though Tiridates had a better title to it, as being his elder brother. He scarce settled the affairs of his kingdom, when the Emperor Caracalla, desirous to signalize himself as several of his predecessors had done, by some memorable exploit against the Parthians, sent solemn embassy to him, desiring his daughter in marriage. Artabanus, overjoyed at this proposal which he thought would be attended with a lasting peace between the two empires, received the

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ambaſſadors with all poſſible marks of honour, and readily complied with their requeſt. Soon after, Caracalla ſent a ſecond embaſſy to acquaint the king that he was coming to ſolemnize the nuptials; whereupon Artabanus went to meet him attended with the chief of the nobility and his beſt troops, all unarmed, and in moſt pompous habit: but this peaceable train no ſooner approached the Roman army, than the ſoldiers, on a ſignal given them, falling upon the king's retinue, made a moſt terrible ſlaughter of the unarmed multitude, Artabanus himſelf eſcaping with great difficulty. The treacherous Caracalla, having gained by this exploit great booty, and, as he thought, no leſs glory, wrote a long and boaſting letter to the ſenate, aſſuming the title of *Parthicus* for this piece of treachery; as he had before that of *Germanicus*, for murdering, in like manner, ſome of the German nobility. Artabanus, reſolving to make the Romans pay dear for their inhuman and barbarous treachery, raiſed the moſt numerous army that had ever been known in Parthia, croſſed the Euphrates, and entered Syria, putting all to fire and ſword. But Caracalla being murdered before this invaſion, Macrinus, who had ſucceeded him, met the Parthians at the head of a mighty army, compoſed of many legions, and all the auxiliaries of the ſtates of Aſia. The two armies no ſooner came in ſight of each other, than they engaged with the utmoſt fury. The battle continued two days; both Romans and Parthians fighting ſo obſtinately, that night only parted them, without any apparent advantage on either ſide; though both retired when night had put an end to the conteſt, crying, *Victory, Victory*. The field of battle was covered all over with dead bodies, there being already above 40,000 killed, including both Romans and Parthians: nevertheleſs Artabanus was heard to ſay, that the battle was only begun, and that he would continue it till either the Parthians or Romans were all to a man cut in pieces. But Macrinus, being well apprized that the king came highly enraged againſt Caracalla in particular, and dreading the conſequences which would attend the deſtruction of his army, ſent an herald to Artabanus, acquainting him with the death of Caracalla, and propoſing an alliance between the two empires. The king, underſtanding that his great enemy was dead, readily embraced the propoſals of peace and amity, upon condition that all the priſoners who had been taken by the treachery of Caracalla ſhould be immediately reſtored, and a large ſum of money paid him to defray the expences of the war. Theſe articles being performed without delay, Artabanus returned into Parthia, and Macrinus to Antioch. As Artabanus led on this occaſion the flower of his army, Artaxerxes, a Perſian of mean deſcent, but of great courage and experience in war, revolting from the Parthians, prevailed on his countrymen to join him, and attempt the recovery of the ſovereign power, which he ſaid they had been unjuſtly deprived of, firſt by the Macedonians, and afterwards by the Parthians their vaſſals. Artabanus, upon the news of this revolt, marched with the whole ſtrength of his kingdom to ſuppreſs it; but being met by Artaxerxes at the head of a no leſs powerful army, a bloody battle enſued, which is ſaid to have laſted three days. At length the Parthians, though they behaved with the utmoſt bravery, and fought like men in deſpair, were forced to yield to the Perſians, who were commanded by a more experienced leader. Moſt of their troops were cut off in the flight; and the king himſelf was taken priſoner, and ſoon after put to death by Artaxerxes's order. The Parthians, having loſt in this fatal engagement both their king and their army, were forced to ſubmit to the conqueror, and become vaſſals to a nation, which had been ſubject to them for 475 years.

PARTHIAN, *adj.* Of or belonging to Parthia.

PARTHIANS, the people of Parthia. For an account of the manners, cuſtoms, &c. of the ancient Parthians, ſee PERSIA.

PARTHICUS, a title abſurdly aſſumed by the emperors Verus and Caracalla, upon their pretended conqueſt of Parthia. See PARTHIA, § 7, 13.

PARTHINI, an ancient people of Illyricum. *Liv.* xxix, 12; xliv, 30. *Sueton. Aug.* 10.

PARTHYENE, a province of Parthia. *Ptol.*

PARTI, PARTIE, PARTY, or PARTED, *part. adj.* in heraldry, is applied to a ſhield or eſcutcheon, denoting it divided or marked out into partitions. Thus,

1. PARTI PER BEND DEXTER, is when the cut comes from the upper corner of the ſhield on the right hand, and deſcends athwart to the oppoſite lower corner.

2. PARTI PER BEND SINISTER, is when the cut, coming from the upper left corner, deſcends acroſs to the oppoſite lower one.

3. PARTI PER FESS, is when the cut is acroſs the middle from ſide to ſide.

4. PARTI PER PALE, is when the ſhield is divided perpendicularly into two halves. All theſe partitions, according to M. de la Colombiere, have their origin from the cuts and bruiſes that have appeared on ſhields after engagements; and, being proofs of the dangers to which the bearers had been expoſed, they gained them eſteem: for which reaſon they were tranſmitted to poſterity, and became arms and marks of honour to their future families.

* PARTIAL, *adj.* [*partial*, French.] 1. Inclined antecedently to favour one party in a cauſe, or one ſide of the queſtion more than the other.—Ye have not kept my ways, but have been *partial* in the law. *Mal.* ii. 9.—Self-love will make men *partial* to themſelves and friends. *Locke.* 2. Inclined to favour without reaſon: with *to* before the part favoured.—Thus kings heretofore who ſhowed themſelves *partial to* a party, had the ſervice only of the worſt part of their people. *Davenant.*—

Authors are *partial to* their wit, 'tis true,
But are not critics to their judgment too? *Pope.*

—In theſe, one may be ſincerer to a reaſonable friend, than to a fond and *partial* parent. *Pope.* 3. Affecting only one part; ſubſiſting only in a part; not general; not univerſal; not total.—If we compare theſe *partial* diſſolutions of the earth with an univerſal diſſolution, we may as eaſily conceive an univerſal deluge from an univerſal diſſolution, as a *partial* deluge from a *partial*. *Burnet.*—The weakening of a thing is only a *partial* deſtruction of it. *South.*—

All *partial* evil, univerſal good. *Pope.*

(1.) * PAR-

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(1.) * PARTIALITY. *n. f.* [*partialite*, Fr. from *partial*.] Unequal ſtate of the judgment and favour of one above the other, without juſt reaſon.—Then would the Iriſh party cry out *partiality*, and complain he is not uſed as a ſubject. *Spenſer*.—*Partiality* is properly the underſtanding's judging according to the inclination of the will and affections, and not according to the exact truth of things, or the merits of the cauſe. *South*.—As there is a *partiality* to opinions, which is apt to miſlead the underſtanding; ſo there is alſo a *partiality* to ſtudies, which is prejudicial to knowledge. *Locke*.

(2.) PARTIALITY. See PREJUDICE, and SELF-PARTIALITY.

* *To* PARTIALIZE. *v. a.* [*partializer*, Fr. from *partial*.] To make partial. A word, perhaps, peculiar to *Shakeſpeare*, and not unworthy of general uſe.—

Such neighbour nearneſs to our ſacred blood
Should nothing priv'lege him, nor *partialize*
Th' unſtooping firmneſs of my upright ſoul.
Shak.

* PARTIALLY. *adv.* [from *partial*.] 1. With unjuſt favour or diſlike. 2. In part; not totally.—That ſtole into a total verity, which was but *partially* true in its covert ſenſe. *Brown*.—The meſſage he brought opened a clear proſpect of eternal ſalvation, which had been but obſcurely and *partially* figured in the ſhadows of the law. *Rogers*.

* PARTIBILITY. *n. ſ.* [from *partible*.] Diviſibility; ſeparability.

* PARTIBLE. *adj.* [from *part*.] Diviſible; ſeparable.—Make the moulds *partible*, glued or cemented together, that you may open them, when you take out the fruit. *Bacon*.—The ſame body, in one circumſtance, is more weighty, and, in another, is more *partible*. *Digby on the Soul*.

* PARTICIPABLE *adj.* [from *participate*.] Such as may be ſhared or partaken.—Plato, by his ideas, means only the divine eſſence with this connotation, as it is variouſly imitable or *participable* by created beings. *Norris's Miſcellanies*.

* PARTICIPANT. *adj.* [*participant*, Fr. from *participate*.] Sharing; having ſhare or part: with *of*.—He publiſhed his proclamation, offering pardon to all ſuch as had taken arms, or been *participant of* any attempts againſt him. *Bacon*.—The prince ſaw he ſhould confer with one *participant of* more than monkiſh ſpeculations. *Wotton*.—If any part of my body be ſo mortified, as it becomes like a rotten branch of a tree, it putrefies, and is not *participant of* influence derived from my ſoul. *Hale*.

(1.) * *To* PARTICIPATE. *v. n.* [*participo*, Lat. *participer*, Fr.] 1. To partake; to have ſhare.

The other inſtruments
Did ſee, and hear, deviſe, inſtruct, walk, feel;
And mutually *participate*. *Shak.*

2. With *of*.—An aged citizen brought forth all his proviſions, and ſaid, that as he did communicate unto them his ſtore, ſo would he *participate of* their wants. *Hayward*. 3. With *in*.—

His delivery, and thy joy thereon,
In both which we, as next, *participate*. *Milton*.

4. To have part of more things than one.—Few creatures *participate of* the nature of plants and metals both. *Bacon*.—

God, when heav'n and earth he did create,
Form'd man, who ſhould *of* both *participate*.
Denham

—Thoſe bodies, which are under a light, whi is extended and diſtributed equally through a ſhould *participate of* each others colours. *Dryd* 5. To have part of ſomething common with an ther.—The ſpecies of audibles ſeem to *partici* more with local motion, like percuſſions made pon the air. *Bacon*.

(2.) * *To* PARTICIPATE. *v. a.* To partak to receive part of; to ſhare.—Neither can *participate* him without his preſence. *Hooker*.—T French ſeldom atchieved any honourable a without Scottiſh hands, who therefore are to *p ticipate* the glory with them. *Camden's Remains*.

Fellowſhip
Such as I ſeek, fit to *participate*
All rational delight. *Milt*

* PARTICIPATION. *n. ſ.* [*participation*, from *participate*.] 1. The ſtate of ſharing ſo thing in common.—In ſociety, this good of mu al *participation* is ſo much larger. *Hooker*.—Th ſpirits are ſo married in conjunction, with the *p ticipation* of ſociety, that they flock together conſent. *Shak. Henry* IV.—A joint coronation himſelf and his queen might give any countena of *participation* of title. *Bacon*. 2. The act or ſt of receiving or having part of ſomething.—things ſeek the higheſt, and covet more or leſs *participation* of God himſelf. *Hooker*.—Thoſe ties are ſo by *participation*, and ſubordinate to ſupreme. *Stilling fleet*.—What an honour, t God ſhould admit us into ſuch a bleſſed *partici tion* of himſelf? *Atterbury*.—Convince them, brutes have the leaſt *participation* of thought, they retract. *Bentley*.—Your genius ſhould mo above that miſt, in which its *participation* neighbourhood with earth long involved it. 3. Diſtribution; diviſion into ſhares.—It ſuffi not, that the country hath wherewith to ſu even more than live upon it, if means be w ing whereby to drive convenient *participatio* the general ſtore into a great number of well ſervers. *Raleigh*.

* PARTICIPIAL. *adj.* [*participalis*, Lat.] ing the nature of a participle.

* PARTICIPIALLY. *adv.* [from *partic* In the ſenſe or manner of a participle.

(1.) * PARTICIPLE. *n. ſ.* *participium*, La 1. A word partaking at once the qualities noun and verb.—A *participle* is a particular ſo adjective, formed from a verb, and together its ſignification of action, paſſion, or ſome manner of exiſtence, ſignifying the time the *Clarke's Lat. Gram.* 2. Any thing that pa pates of different things. Not uſed.—The *ciples* or confiners between plants and living tures, are ſuch as are fixed, though they h motion in their parts: ſuch as, oyſters and co *Bacon*.

(1.) * PARTICLE. *n. ſ.* [*particule*, Fr. *part* Lat.] 1. Any ſmall portion of a great ſubſ —From any of the other unreaſonable de the houſes had not given their commiſſion thority in the leaſt *particle* to recede. *Cla* —There is not one grain in the univerſe,

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much as any one *particle* of it, that mankind may not be either the better or the worſe for, according as 'tis applied. *L'Eſtrange.*—

With *particles* of heavenly fire,
The God of nature did his ſoul inſpire. *Dryd.*

Curious wits,
With rapture, with aſtoniſhment reflect,
On the ſmall ſize of atoms, which unite
To make the ſmalleſt *particle* of light. *Blackm.*

—It is not impoſſible, but that microſcopes may, at length, be improved to the diſcovery of the *particles* of bodies, on which their colours depend. *Newton.*—

Bleſt with more *particles* of heav'nly flame.
Granville.

2. A word unvaried by inflection.—'Till Arianiſm had made it a matter of ſharpneſs and ſubtilty of wit to be a ſound believing chriſtian, men were not curious what ſyllables or *particles* of ſpeech they uſed. *Hooker.*—The Latin varies the ſignification of verbs and nouns, not as the modern languages, by *particles* prefixed, but by changing the laſt ſyllables. *Locke.*—*Particles* are the words, whereby the mind ſignifies what connection it gives to the ſeveral affirmations and negations, that it unites in one continued reaſoning or narration. *Locke.*—In the Hebrew tongue, there is a *particle*, conſiſting but of one ſingle letter, of which there are reckoned above fifty ſeveral ſignifications. *Locke.*

(2.) *A* PARTICLE, in phyſiology, (§ 1, *def.* 1.) is the minute part of a body, an aſſemblage of which conſtitutes all natural bodies. In the new philoſophy particle is often uſed in the ſame ſenſe with ATOM in the ancient Epicurean philoſophy, and CORPUSCLE in the latter. Some writers, however, diſtinguiſh them; making particle an aſſemblage or compoſition of two or more primitive and phyſically indiviſible corpuſcles or atoms; and corpuſcle, or little body, an aſſemblage or maſs of ſeveral particles or ſecondary corpuſcles. The diſtinction, however, is of little moment; and, as to moſt purpoſes of phyſics, particle may be underſtood as ſynonimous with corpuſcle. Particles are then the elements of bodies: it is the various arrangement and texture of theſe, with the difference of the cohefion, &c. that conſtitute the various kinds of bodies, hard, ſoft, liquid, dry, heavy, light, &c. The ſmalleſt particles or corpuſcles cohere with the ſtrongeſt attractions, and always compoſe bigger particles of weaker cohefion; and many of theſe cohering compoſe bigger particles, whoſe vigour is ſtill weaker; and thus on for divers ſucceſſions, till the progreſſion end in the biggeſt particles, whereon the operations in chemiſtry, and the colours of natural bodies, depend, and which, by cohering, compoſe bodies of ſenſible bulks. The cohefion of the particles of matter, according to the Epicureans, was effected by hooked atoms; the Ariſtotelians thought it managed by reſt, that is, by nothing at all. But Sir Iſaac Newton ſhows it is done by means of a certain power, whereby the particles mutually *attract* or tend towards each other, which is ſtill perhaps giving a fact without the cauſe. By this attraction of the particles, he ſhows that moſt of the phenomena of the leſſer bodies are affected, as thoſe of the heavenly bodies are by the attraction of gravity. See ATTRACTION and COHESION.

(3.) PARTICLE, in grammar, (§ 1. *def.* 2.) is a denomination for all thoſe words that unite or diſjoin others; or that expreſs the modes or manners of words or things. It comprehends all thoſe parts of ſpeech, divided by grammarians into ARTICLES, ADVERBS, PREPOSITIONS, INTERJECTIONS, and CONJUNCTIONS. See theſe articles.

(4.) PARTICLE, in theology, is uſed in the Latin church for the crums or little pieces of conſecrated bread, called in the Greek church μερίδες. The Greeks have a particular ceremony, called των μερίδων, *of the particles*, wherein certain crumbs of bread, not conſecrated, are offered up in honour of the Virgin, St John the Baptiſt, and ſeveral other ſaints. They alſo give them the name of προσφορα, *oblation*. Gabriel archbiſhop of Philadelphia wrote a treatiſe expreſs περι των μερίδων, wherein he endeavours to ſhow the antiquity of this ceremony, in that it is mentioned in the liturgies of St Chryſoſtom and Baſil. There has been much controverſy on this head between the reformed and catholic divines. Aubertin and Blondel explain a paſſage in the theory of Germanus patriarch of Conſtantinople, where he mentions the ceremony of the particles as in uſe in his time, in favour of the former; Meſſieurs de Port Royal conteſt the explanation; but M. Simon, in his notes on Gabriel of Philadelphia, endeavours to ſhow that the paſſage itſelf is an interpolation, not being found in the ancient copies of Germanus, and conſequently that the diſpute is very ill grounded.

(5.) PARTICLES, ORGANIC, are thoſe ſmall moving bodies which are imperceptible without the help of glaſſes; for beſides thoſe animals which are perceptible to the ſight, ſome naturaliſts reckon this exceedingly ſmall ſpecies as a eparate claſs, if not of animals properly ſo called, at leaſt of moving bodies, which are found in the ſemen of animals, and which cannot be ſeen without the help of the microſcope. In conſequence of theſe obſervations, different ſyſtems of generation have been propoſed, concerning the ſpermatic worms of the male and the eggs of the female. (See ANATOMY, *Index.*) In Buffon's Natural Hiſtory, vol. 2. ſeveral experiments are related, tending to ſhow that thoſe moving bodies which we diſcover by the help of glaſſes in the male ſemen are not real animals, but organic, lively, active, and indeſtructible molecules, which poſſeſs the property of becoming a new organized body ſimilar to that from which they were extracted. Buffon found ſuch bodies in the female as well as in the male ſemen; and he ſuppoſes that the moving bodies which he obſerved with the microſcope in infuſions of the germs of plants are likewiſe vegetable organic molecules. Needham, Wriſberg, Spallanzani, and ſeveral other writers on the animal economy, having purſued the ſame tract with M. de Buffon. Some ſuppoſe that theſe organic molecules in the ſemen anſwer no purpoſe but to excite the venereal deſire: but ſuch an opinion cannot be well founded; for eunuchs who have no ſeminal liquor, are nevertheleſs ſubject to venereal deſire. With reſpect to the

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the beautiful experiments which have been made with the microscope on organic molecules, M. Bonnet, that learned and excellent observer of nature, remarks that they seem to carry us to the farthest verge of the sensible creation, did not reason teach us that the smallest visible globule of seminal liquor is the commencement of another universe, which, from its infinite smallness, is beyond the reach of our best microscopes. *Animalcules* properly so called, must not be confounded with the wonderful organic particles of Buffon. See ANIMALCULE.

(1.) * PARTICULAR. *adj.* [*particulier*, Fr.] 1. Relating to single persons; not general.—He, as well with general orations, as *particular* dealing with men of most credit, made them see how necessary it was. *Sidney.*—As well for *particular* application to special occasions, as also in other manifold respects, infinite treasures of wisdom are abundantly to be found in the holy scripture. *Hooker.* 2. Individual; one distinct from others.—Wheresoever one plant draweth such a *particular* juice out of the earth, as it qualifieth the earth, so as that juice, which remaineth is fit for the other plant; there the neighbourhood doth good. *Bacon.*—This is true of actions considered in their general nature or kind, but not considered in their *particular* individual instances. *South.*—Artists, who propose only the imitation of such a *particular* person, without election of ideas, have often been reproached for that omission. *Dryden.* 3. Noting properties or things peculiar.—Of this prince there is little *particular* memory. *Bacon.* 4. Attentive to things single and distinct.—I have been *particular* in examining the reason of children's inheriting the property of their fathers. *Locke.* 5. Single; not general; one among many.—Rather performing his general commandment, which had ever been, to embrace virtue, than any new *particular*, sprung out of passion. *Sidney.* 6. Odd; having something that eminently distinguishes him from others. This is commonly used in a sense of contempt.

(2.) * PARTICULAR. *n. s.* 1. A single instance; a single point.—I must reserve some *particulars*, which it is not lawful for me to reveal. *Bacon.*—What is universal must needs proceed from some universal constant principle; the same in all *particulars*, which can be nothing else but human nature. *South.*—Having the idea of an elephant or an angle in my mind, the first and natural enquiry is, whether such a thing does exist? and this knowledge is only of *particulars*. *Locke.*—The master could hardly sit on his horse for laughing, all the while he was giving me the particulars of this story. *Addison.*—Vespasian he resembled in many *particulars*. *Swift.* 2. Individual; private person.—It is the greatest interest of *particulars*, to advance the good of the community. *L'Estrange.* 3. Private interest.—Our wisdom must be such, as doth not propose to itself as their own *particular*, the partial and immoderate desire whereof poisoneth wheresoever it taketh place; but the publick and common good. *Hooker.*—They apply their minds even with hearty affection and zeal, at the least, unto those branches of public prayer, wherein their own *particular* is moved. *Hooker.*—

His general lov'd him
In a most dear *particular*. *Sha*

—We are likewise to give thanks for tempo blessings, whether such as concern the publick, else such as concern our *particular*. *Duty of M* 4. Private character; single self; state of an in vidual.—

For his *particular*, I'll receive him gladly;
But not one follower. *Sh*

5. A minute detail of things singly enumerat —The reader has a *particular* of the books, whe in this law was written. *Ayliffe.* 6. *In Particul* Peculiarly; distinctly.—Invention is called a mu authors ascribe to each of them *in particular*, sciences which they have invented. *Dryde* And if we will take them, as they were direct *in particular* to her, or in her, as their repres tive, to all other women, they will, at most, c cern the female sex only. *Locke.*—This *in part lar* happens to the lungs. *Blackmore.*

* PARTICULARITY. *n. s.* [*particularité*, from *particular*.] 1. Distinct notice or enum tion.—So did the boldness of their affirmation company the greatness of what they did affi even descending to *particularities*, what kingd he should overcome. *Sidney.* 2. Singleness; i viduality; single act; single case.—Knowle imprinted in the minds of all men, upon wh conclusions grow, in *particularity*, the choic good and evil. *Hooker.* 3. Petty account; pri incident.—To see the titles that were most ag able to such an emperor, the flatteries that he open to, with the like *particularities* only t met with on medals, are certainly not a little sing. *Addison.* 4. Something belonging to fi persons.—

Let the general trumpet blow his blast,
Particularities and petty sounds
To cease. *Shak. Henry*

5. Something peculiar.—I saw an old heathen with this *particularity*, that it was hollowed li dish at one end. *Addison on Italy.*—He applied self to the coquette's heart; there occurred *particularities* in this dissection. *Addison.*

* *To* PARTICULARIZE. *v. a.* [*particula* Fr. from *particular*.] To mention distinctly detail; to shew minutely.—The leanness tha flicts us, is an inventory to *particularize* the bundance. *Shakesp. Coriol.*—He not only boa his parentage as an Israelite, but *particulariz* descent from Benjamin. *Atterbury.*

* PARTICULARLY. *adv.* [from *partic* 1. Distinctly; singly; not universally.—Provid that universally casts its eye over all the cre is yet pleased more *particularly* to fasten it some. *South.* 2. In an extraordinary degree.— exact propriety of Virgil, I *particularly* reg as a great part of his character. *Dryden.*— the flower and the leaf I was so *particularly* fed, that I commend it to the reader. *Dryde*

* *To* PARTICULATE. *v. a.* [from *partic* To make mention singly. Obsolete.—I ma *particulate* of Alexander Hales, the irrefra doctor. *Camden's Remains.*

(I.) PARTING, *n. s.* in metallurgy. See TALLURGY, *Part* II, *Sect.* IV; and *Part* II

(II.) PARTING, in chemistry, an operati which gold and silver are separated from e

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ther. As these two metals resist equally well the action of fire and of lead, they must therefore be separated by other methods. This separation could not be effected if they were not soluble by different menstruums. Nitrous acid, marine acid, and sulphur, which cannot dissolve gold, attack silver very easily; and therefore these three agents furnish methods of separating silver from gold, or of the operation called *parting*. Parting by nitrous acid is the most convenient, and therefore most used, and even almost the only one employed by goldsmiths and coiners. Wherefore it is called simply *parting*. That made with the marine acid is only made by cementation, and is known by the name of *concentrated parting*. Lastly, parting by sulphur is made by fusion, which the chemists call the *dry way*, and is therefore called *dry parting*.

1. PARTING BY AQUAFORTIS. Altho' parting by aquafortis be easy, it cannot be very exact, unless we attend to some essential circumstances. I. The gold and silver must be in a proper proportion: for if the gold be in too great quantity, the silver will be covered and guarded by it from the action of the acid. Therefore, when the essayers do not know the proportion of these two metals in the mass to be operated upon, they discover it by the following method: They have a certain number of needles composed of gold and silver allayed together in graduated proportions, and the allay of each needle is known by a mark upon it. These are called *proof needles*. When essayers want to know nearly the proportion of gold and silver in a mass, they rub this mass upon a touchstone, so as to leave a mark upon it. They then make marks upon the touchstone with some of the needles the colour of which they think comes nearest to that of the mass. By comparing the marks of these needles with the mark of the mass, they discover nearly the proportion of the gold and silver in the mass. If this trial shows, that in any given mass the silver is not to the gold as three to one, this mass is improper for the operation of parting by aquafortis. In this case, the quantity of silver necessary to make an allay of that proportion must be added. This operation is called QUARTATION, probably because it reduces the gold to a fourth part of the whole mass. II. That the parting may be exact, the nitrous acid or aquafortis employed must be very pure, and especially free from mixture of vitriolic and marine acids. For if this be not attended to, a quantity of silver proportionable to these two foreign acids will be separated during the solution; and this portion of silver, reduced by these acids to vitriol of silver and to luna cornea, will remain mingled with the gold, which consequently will not be entirely purified by the operation. When the metallic mass is properly allayed, it is to be reduced to plates, rolled up spirally, called *cornets*; or to grains. These are to be put into a matrass, and upon them a quantity of aquafortis is to be poured, the weight of which is to that of the silver as three to two: and as the nitrous acid employed for this operation is rather weak, the solution is assisted, especially at first, by the heat of a sand bath, in which the matrass is to be placed. When, notwithstanding the heat, no further mark of solution appears, the aquafortis charged with silver is to be decanted. Fresh nitrous acid is to be poured into the matrass, stronger than the former, and in less quantity, which must be boiled on the refiduous mass and decanted as the former. Aquafortis must even be boiled a 3d time on the remaining gold, that all the silver may be certainly dissolved. The gold is then to be washed with boiling water. This gold is very pure if the operation has been performed with due attention. It is called *gold of parting*. No addition of silver is required, if the quantity of silver of the mass is evidently much more considerable than that of the gold: persons who have not proof needles and other apparatus to determine the proportion of the allay, may add to the gold an indeterminate quantity of silver, observing that this quantity be rather too great than too small, and so considerable as to render the mass nearly as white as silver; for a large quantity of silver is rather favourable than hurtful to the operation: It has no other inconvenience than an useless expence, as the larger the quantity is of silver the more aquafortis must be employed. We ought to attend to this fact, that the colour of gold is scarcely perceptible in a mass two 3ds of which are silver and one 3d is gold; this colour then must be much less perceptible when the gold is only one 4th part, or less, of the whole mass. If the quantity of gold exceeds that of the silver, the mass may be exposed to the action of aquaregia, which would be a kind of *inverse parting*, because the gold is dissolved in that menstruum, and the silver is not, but rather reduced to a luna cornea, which remains in form of a precipitate after the operation. But this method is seldom or never practised, for the silver is not so accurately separated from the gold by aqua-regia, as the gold is from the silver by aquafortis. The gold, after the parting by aquafortis, is much more easily collected when it remains in small masses than when it is reduced to powder. When the mass has been regularly *quarted*, that is, when it contains three parts of silver and one part of gold, we must employ, particularly for the first solution, an aquafortis so weakened that heat is required to assist the solution of the silver; by which means the solution is made gently; and the gold which remains preserves the form of the small masses before the solution. If the aquafortis employed were stronger, the parts of the gold would be disunited and reduced to the form of a powder, from the activity with which the solution would be made. We may indeed part by aquafortis a mass containing two parts of silver to one part of gold: but then the aquafortis must be stronger: and if the solution be not too much hastened, the gold will more easily remain in masses after the operation. In both cases, the gold will be found to be tarnished and blackened. Its parts have no adhesion together, because the silver dissolved from it has left many interstices; and the cornets or grains of this gold will be easily broken, unless they be handled very carefully. To give them more solidity, they are generally put into a test under a muffle and made red hot; during which operation they contract considerably; and their parts are

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approximated. These pieces of gold are then found to be rendered much more solid, so that they may be handled without being broken. By this operation also the gold resumes its colour and lustre; and as it generally has the figure of cornets, it is called *gold in cornets*, or *grain gold*. Essayers avoid melting it, as they choose to preserve this form, which shows that it has been parted. The gold and silver thus operated upon ought to have been previously refined by lead, and freed from all allay of other metallic matters, so that the gold which remains should be as pure as is possible. However, as this is the only metal which resists the action of aquafortis, it might be purified by parting from all other metallic substances; but this is not generally done, for several reasons. First, because the refining by lead is more expeditious and convenient for the separation of the gold from the imperfect metals; 2dly, because the silver, when afterwards separated from the aquafortis, is pure; lastly, because, as most imperfect metals do not remain completely and entirely dissolved in nitrous acid, the gold would be found after the parting mixed with the part of these metals which is precipitated. The gold remaining after the parting ought to be well washed, to cleanse it from any of the solution of silver which might adhere to it; and for this purpose distilled water ought to be used, or at least water the purity of which has been ascertained by its not forming a precipitate with a solution of silver, because such a precipitate would alter the purity of the gold. The silver dissolved in the aquafortis may be separated either by distillation, in which case all the aquafortis is recovered very pure, and fit for another parting; or it may be precipitated by some substance which has a greater affinity than this metal with nitrous acid. Copper is generally employed for this purpose at the mint. The solution of silver is put into copper vessels. The aquafortis dissolves the copper, and the silver precipitates. When the silver is all precipitated, the new solution is decanted, which is then a solution of copper. The precipitate is to be well washed, and may be melted into an ingot. It is called *parted silver*. When this silver has been obtained from a mass which had been refined by lead, and when it has been well washed from the solution of copper, it is very pure. Mr Cramer observes justly in his *Treatise on Essaying*, that however accurately the operation of parting has been performed, a small portion of silver always remains united with the gold, if the parting has been made by aquafortis; or a small portion of the gold remains united with the silver, if the parting has been made by aqua-regia: and he estimates this small allay to be from a 200th to a 150th part; which quantity may be considered as nothing for ordinary purposes, but may become sensible in accurate chemical experiments. (*Chem. Dict.*) The mass of gold and silver to be quarted ought previously to be granulated; which may be done by melting it in a crucible, and pouring it into a large vessel full of cold water, while at the same time a rapid circular motion is given to the water by quickly stirring it round with a stick or broom. The aquafortis ought to be so strong as to be capable of acting sensibly on silver when cold, but not so strong as to act violently. If the aquafo be very strong, however pure, and if the vessel well closed, a small quantity of the gold wil dissolved along with the silver, which is to guarded against. Little heat ought to be app at the beginning, the liquor being apt to swell rise over the vessel; but when the acid is ne saturated, the heat may be safely increased. W the solution ceases, which may be known by discontinuance of the effervescence, or emissio air-bubbles, the liquor is to be poured off. If grains appear entire, more aquafortis must be ed, that all the silver may be dissolved. If the ration has been performed slowly, the remai gold will have still the form of distinct m which are to receive solidity and colour by as above directed. If the operation has been formed hastily, the gold will have the appear of a black mud or powder, which after 5 washings with pure water must be melted. silver may be recovered by precipitating it the aquafortis by small plates of copper thro long with the liquor into glass vessels. A derable heat is required to accelerate this pr tation. Dr Lewis says, he has observed that the aquafortis was perfectly saturated with no precipitation was occasioned by plates of per, till a drop or two of aquafortis was add the liquor, and then the precipitation began continued as usual. The precipitated silver be well washed in boiling water, and fused some nitre; the use of which is to scorify an preous particles which may adhere to the From the solution of copper in aquafortis, a pigment, called VERDITER, is obtained by pitation with whiting. *Notes to Chem. Dict.*

2. PARTING BY CEMENTATION. CONCENTED PARTING is performed by cementation, is used when the quantity of gold is so gr proportion to the silver, that it cannot be se ted by aquafortis. (See CEMENT, § 4.) operation is done in the following manne cement is first prepared, composed of 4 pa bricks powdered and sifted, of one part of vitriol calcinated till it becomes red, and c part of common salt. The whole is very rately mixed together, and a firm paste is m it by moistening it with a little water or This cement is called *cement royal*, becaus employed to purify gold, which was styled chemists, *the king of metals*. The gold to mented is to be reduced to thin plates, as t small pieces of money. At the bottom of th cible or cementing pot, a stratum of ceme the thickness of a finger, is to be put, whic be covered with plates of gold; upon the ther stratum of cement is to be laid, and then plates of gold, till the crucible is filled with alternate strata of cement and of gold. whole is then to be covered with a lid, whi to be luted with a mixture of clay and sand. pot is to be placed in a furnace, or oven, heated by degrees till it is moderately red, w heat is to be continued during 24 hours. heat must not be so great as to melt the g The pot is then left to cool, and the gold is t carefully separated from the cement, and b at different times in a large quantity of pure

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ter. This gold is to be eſſayed upon a touchſtone or otherwiſe; and if it be found not ſufficiently purified, it is to be cemented a 2d time in the ſame manner. The ſulphuric acid of the bricks and of the calcined vitriol diſengages the acid of the common ſalt during this cementation: and this laſt acid diſſolves the ſilver allayed with the gold, and ſeparates it by that means.—This experiment proves, that although the muriatic acid, while it is liquid, cannot attack ſilver, it is nevertheleſs a powerful ſolvent of that metal. But for this purpoſe it muſt be applied to the ſilver in the ſtate of vapours, extremely concentrated, and aſſiſted with a conſiderable heat. All theſe circumſtances are united in the concentrated parting. This experiment proves alſo, that notwithſtanding all theſe circumſtances, which favour the action of the muriatic acid, it is incapable of diſſolving gold. Laſtly, the muriatic acid in this ſtate more effectually diſſolves the ſilver than the nitrous acid does in the parting by aquafortis, ſince this operation ſucceeds well when the ſilver is in ſo ſmall a proportion as that it would be protected from the action of the nitrous acid in the ordinary parting. Inſtead of ſea-ſalt, nitre may be uſed with equal ſucceſs; becauſe the nitrous acid is then put in a ſtate to attack the ſilver, notwithſtanding the quantity of gold which covers it.

3. PARTING BY FUSION, or DRY PARTING, is performed by ſulphur, which has the property of uniting eaſily with ſilver, while it does not attack gold. This method of ſeparating theſe two metals would be the cheapeſt, the moſt expeditious and convenient of any, if the ſulphur could diſſolve the ſilver, and ſeparate it from the gold as well and as eaſily as nitrous acid does: but, on the contrary, we are obliged to employ a particular management, and a kind of concentration, to begin the action of the ſulphur allayed with gold. Then repeated and troubleſome fuſions muſt be made, in each of which we are obliged to add different intermediate ſubſtances, and particularly the metals which have the ſtrongeſt affinity with ſulphur, to aſſiſt the precipitation, which in that caſe does not give a regulus of pure gold, but a gold ſtill alloyed with much ſilver, and even with a part of the precipitating metals; ſo that, to complete the operation, cupellation is neceſſary, and alſo parting by aquafortis. It is therefore evident, that this operation ought not to be made but when the quantity of ſilver with which the gold is allayed is ſo great, that the quantity of gold which might be obtained by the ordinary parting is not ſufficient to pay the expences; and that it is only proper for concentrating a larger quantity of gold in a ſmaller quantity of ſilver. As this dry parting is troubleſome, and even expenſive, it ought not to be undertaken but on a conſiderable quantity of ſilver allayed with gold. Accordingly Cramer, Schlutter, Schlinder, and all good chemiſts and aſſayers who have proceſſes for the dry parting, recommend its uſe only in ſuch caſes. As this operation for extracting a ſmall quantity of gold from a large quantity of ſilver is, notwithſtanding its inconveniences, approved by Schlutter, Sheffer, and other authors, and practiſed in Hartz, we ſhall ſay what Dr Lewis, in his *Hiſtory of Gold*, has ſaid upon the ſubject. The moſt advantageous method of ſeparating a ſmall portion of gold from a large one of ſilver, appears to be by ſulphur; which unites with and ſcorifies the ſilver without affecting the gold; but as ſulphurated ſilver does not flow thin enough, to ſuffer the ſmall particles of gold diffuſed through it to reunite and ſettle at the bottom, ſome addition is neceſſary for collecting and carrying them down. In order to the commixture with the ſulphur, 50 or 60 lb. of the mixed metal, or as much as a large crucible will receive, are melted at once, and reduced into grains, by taking out the fluid matter, with a ſmall crucible made red-hot, and pouring it into cold water ſtirred with a rapid circular motion. From $\frac{1}{5}$ to $\frac{1}{8}$ of the granulated metal, according as it is richer or poorer in gold, is reſerved, and the reſt well mingled with $\frac{1}{4}$ of powdered ſulphur. The grains enveloped with the ſulphur are again put into the crucible, and the fire kept gentle for ſome time, that the ſilver before it melts, may be thoroughly penetrated by the ſulphur; if the fire be haſtily urged, great part of the ſulphur will be diſſipated, without acting upon the metal. If to ſulphurated ſilver in fuſion pure ſilver be added, the latter falls to the bottom, and forms there a diſtinct fluid not miſcible with the other. The particles of gold, having no affinity with the ſulphurated ſilver, join themſelves to the pure ſilver, wherever they come in contact with it, and are thus transferred from the former into the latter, more or leſs perfectly according as the pure ſilver was more or leſs thoroughly diffuſed through the mixed. It is for this uſe that a part of the granulated metal was reſerved. The ſulphurated maſs being brought into perfect fuſion, and kept melted for near an hour in a cloſe covered crucible, one third of the reſerved grains is thrown in; and as ſoon as this is melted, the whole is well ſtirred, that the freſh ſilver may be diſtributed through the mixed to collect the gold from it. The ſtirring is performed with a wooden rod; an iron one would be corroded by the ſulphur, ſo as to deprive the mixed of its due quantity of ſulphur, and likewiſe render the ſubſequent purification of the ſilver more troubleſome. The fuſion being continued an hour longer, another third of the unſulphurated grains is added, and an hour after this the remainder; after which the fuſion is further continued for ſome time, the matter being ſtirred at leaſt every half hour from the beginning to the end, and the crucible kept cloſely covered in the intervals. The ſulphurated ſilver appears in fuſion of a dark brown colour; after it has been kept melted for a certain time, a part of the ſulphur having eſcaped from the top, the ſurface becomes white, and ſome bright drops of ſilver, about the ſize of peaſe, are perceived on it. When this happens, which is commonly in about three hours after the laſt addition of the reſerved grains, ſooner or later according as the crucible has been more or leſs cloſely covered, and the matter continued; for otherwiſe more and more of the ſilver, thus loſing its ſulphur, would ſubſide and mingle with the part at the bottom in which the gold is collected. The whole is poured out into an iron mortar greaſed and duly heated; or if the quantity is too large to be ſafely lifted at once, a part is firſt taken out from the

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top with a ſmall crucible, and the reſt poured into the mortar. The gold, diffuſed at firſt through the whole maſs, is now found collected into a part of it at the bottom, amounting only to about as much as was reſerved unſulphurated. This part may be ſeparated from the ſulphurated ſilver above it by a chiſſel and hammer; or more perfectly, the ſurface of the lower maſs being generally rugged and unequal, by placing the whole maſs with its bottom upwards in a crucible: the ſulphurated part quickly melts, leaving unmelted that which contains the gold, which may thus be completely ſeparated from the other. The ſulphurated ſilver is eſſayed by keeping a portion of it in fuſion in an open crucible till the ſulphur is diſſipated, and then diſſolving it in aqua fortis. If it ſhould ſtill be found to contain any gold, it is to be melted again; as much more unſulphurated ſilver is to be added as was employed in each of the former injections, and the fuſion continued about an hour and a half. The gold thus collected into a part of the ſilver may be further concentrated into a ſmaller part, by granulating the maſs and repeating the whole proceſs. The operation may be again and again repeated, till ſo much of the ſilver is ſeparated, that the remainder may be parted without much expence. This proceſs, according to M. Schlutter, is practiſed at Rammelſberg in Lower Hartz. The prevailing metal in the ore of Rammelſberg is lead: the quantity of lead is at moſt 40 lb. on a quintal of 100 lb. of the ore. The lead worked off on a teſt or concave hearth yields about 110 grains of ſilver, and the ſilver contains only a 384th part of gold; yet this little quantity of gold, amounting ſcarcely to a third of a grain in a hundred weight of this ore, is thus collected with profit. The author above-mentioned confines this method of ſeparation to ſuch ſilver as is poor in gold, and reckons parting with aquafortis more advantageous where the gold amounts to above a 64th of the ſilver: he adviſes alſo not to attempt concentrating the gold too far, as a portion of it will always be taken up again by the ſilver. Mr Scheffer, however, relates (in the *Sweaiſh Memoirs* for 1752), that he has by this method brought the gold to perfect fineneſs; and that he has likewiſe collected all the gold which the ſilver contained; the ſilver of the laſt operations, which had taken up a portion of the gold, being reſerved to be worked over again with a freſh quantity of gold-bearing ſilver. The ſulphurated ſilver is purified by continuing it in fuſion for ſome time with a large ſurface expoſed to the air; the ſulphur gradually exhales and leaves the ſilver entire.

PARTING-GLASSES, *n. ſ.* Glaſs veſſels uſed for parting gold and ſilver. They have the form of truncated cones, the bottom being commonly about 7 inches wide, the aperture about one or two inches wide, and the height about 12 inches. Theſe veſſels ought to have been well annealed, and choſen free from flaws; as one of the chief inconveniences attending the operation is, that the glaſſes are apt to crack by expoſure to cold, and even when touched by the hand. Some operators ſecure their glaſſes by a coating. For this purpoſe they ſpread a mixture of quick lime, ſlaked with beer and whites of eggs, upon linen cloth, which they wrap round the lower part of the veſſel, leaving the upper part uncovered, that they may ſee the progreſs of the operation; and over this cloth they apply a compoſition of clay and hair. Schlutter adviſes to put the parting-glaſſes containing ſome water, and ſupported by trevets, with fire under them. When the heat communicated by the water is too great, it may be diminiſhed by adding cold water; which muſt be done very carefully by pouring againſt the ſides of the pan, to prevent too ſudden an application of cold to the parting-glaſs. The intention of this contrivance is, that the contents of the glaſſes, if theſe ſhould break, may be received by the copper veſſel. Into a glaſs 15 inches high, and 10 or 12 inches wide at bottom, placed in a copper pan 15 inches wide at bottom, 15 inches wide at top, and 10 inches high, he uſually put about 80 oz. of metal, with twice as much aquafortis.

(1.) * PARTISAN. *n. ſ.* [*pertuiſan*, French.] 1. A kind of pike or halberd.—

Let us
Make him with our pikes and *partiſans*
A grave. *Shakeſpeare's Ham.*

Shall I ſtrike at it with my *partiſan? Sh.*

2. [From *parti*, French.] An adherent to a ſection.—Some of theſe *partiſans* concluded, that government had hired men to be bound and impriſoned. *Addiſon.*—I would be glad any *partiſan* would help me to a tolerable reaſon, that, becauſe Clodius and Curio agree with me in a few ſingular notions, I muſt blindly follow them in all. *Swift.* 3. The commander of a party detached from the main body upon ſome ſudden excurſion. 4. A commander's leading ſtaff.

(2.) *A* PARTISAN, in the art of war, (§ 1. 3.) is a perſon dexterous in commanding a party who, knowing the country well, is employed in getting intelligence, or ſurpriſing the enemy's convoys, &c. It alſo means an officer ſent out with the command of a body of light troops. This corps ſhould be compoſed of infantry, light-horſe, and huſſars.

PARTISTAGNO, a town of Maritime Auſtria in the province of Friuli.

* PARTITION. *n. ſ.* [*partition*, Fr. *partitio*, Latin.] 1. The act of dividing; a ſtate of being divided.—

Like to a double cherry, ſeeming parted
But yet an union in *partition.*

2. Diviſion; ſeparation; diſtinction.—We are in this reſpect, our churches divided by certain *partitions*, although not ſo many in number as they. *Hooker.*—

Can we not
Partition make with ſpectacles ſo precious
'Twixt fair and foul? *Shak. Cym.*

We ſhall be winnow'd with ſo rough a fan
That ev'n our corn ſhall ſeem as light as chaff
And good from bad find no *partition.*

—The day, month and year, meaſured by what are uſed as ſtandard meaſures, as likely others arbitrarily deduced from them by *partition* or ſection. *Holder on Time.* 3. Part divided from the reſt; ſeparate part.—

Ledg'd in a ſmall *partition.*

4. That by which different parts are ſeparated.—It doth not follow, that God doth teach us to erect between us and them a *partition* wall

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ference. *Hooker.*—Make *partitions* of wood in a hogshead, with holes in them, and mark the difference of their sound from that of an hogshead without such *partitions*. *Bacon.*—

Partition, firm and sure,
The waters underneath from those above
Dividing. *Milton's Paradise Lost.*

—Enclosures our factions have made in the church, become a great *partition* wall to keep others out of it. *Decay of Piety.*—At one end of it, is a great *partition*, designed for an opera. *Addison.*—The *partition* between good and evil is broken down. *Locke.* 5. Part where separation is made.—

The mound was newly made, no sight could pass
Between the nice *partitions* of the grass. *Dryd.*

* *To* PARTITION. *v. a.* To divide into distinct parts—These sides are uniform without, though internally *partitioned* within. *Bacon.*

* PARTLET. *n. s.* A name given to a hen; the original signification being a ruff or band, or covering for the neck. *Hanmer.*—

Thou dotard, thou art woman tired; unroosted
By thy dame *partlet* here. *Shakespeare.*
Tu'd with pin'd ruffs, and fans, and *partlet* strips. *Hall.*
Dame *partlet* was the sovereign of his heart;
He feather'd her. *Dryden's Fables.*

* PARTLY. *adv.* [from *part.*] In some measure; in some degree; in part.—That part, which, since the coming of Christ, *partly* hath embraced, and *partly* shall hereafter embrace the Christian religion, we term the church of Christ. *Hooker.*—They thought it reasonable to do all possible honour to their memories; *partly* that others might be encouraged to the same patience and fortitude, and *partly* that virtue, even in this world, might not lose its reward. *Nelson.*—The inhabitants of Naples have been always very notorious for leading a life of laziness and pleasure, which I take to arise out of the wonderful plenty of their country, that does not make labour so necessary to them, and *partly* out of the temper of their climate, that relaxes the fibres. *Addison on Italy.*

* PARTNER. *n. s.* [from *part.*] 1. Partaker; sharer; one who has part in any thing; associate—

My noble *partner*,
You greet with present grace. *Shak. Macbeth.*

—Those of the race of Sem were no *partners* in the unbelieving work of the tower. *Raleigh.*—

To undergo
Myself the total crime; or to accuse
My other self, the *partner* of my life. *Milton.*

—Sapor, king of Persia, had an heaven of glass, which fitting in his estate, he trod upon, calling himself brother to the sun and moon, and *partner* with the stars. *Peacham.*—The soul continues in her action, till her *partner* is again qualified to bear her company. *Addison.* 2. One who dances with another.—

Lead in your ladies every one; sweet *partner*,
I must not yet forsake you. *Shak. Henry* VIII.

* *To* PARTNER. *v. a.* [from the noun.] To join; to associate with a partner.—

A lady who
So fair, and fifteen'd to an empire,
Would make the great'st king double to be *partner'd*
With tomboys. *Shakespeare.*

(I.) * PARTNERSHIP. *n. s.* [from *partner.*] 1. Joint interest or property.—

He does possession keep,
And is too wise to hazard *partnership*. *Dryden.*

2. The union of two or more in the same trade.—'Tis a necessary rule in alliances, *partnerships*, and all manner of civil dealings, to have a strict regard to the disposition of those we have to do withal. *L'Estrange.*

(II.) PARTNERSHIP is a contract among two or more persons, to carry on a certain business, at their joint expence, and share the gain or loss which arises from it. Of this there are four kinds.

1. PARTNERSHIP IN COMPANIES INCORPORATED BY AUTHORITY. A royal charter is necessary to enable a company to hold lands, to have a common seal, and enjoy the other privileges of a corporation. A charter is sometimes procured, in order to limit the risk of partners: for, in every private company, the partners are liable for the debts, without limitation; in corporated societies, they are only liable for their shares in the stock of the society. The incorporation of societies sometimes is authorised by act of parliament; but this high authority is not necessary, unless for conferring exclusive privileges.

2. PARTNERSHIP IN COMPANIES, WHERE THE BUSINESS IS CONDUCTED BY OFFICERS. There are many companies of this kind in Britain, chiefly established for purposes which require a larger capital than private merchants can command. The laws with respect to these companies, when not confirmed by public authority, are the same as the following, but the articles of their agreement usually very different. The capital is condescended on, and divided into a certain number of shares, whereof each partner may hold one or more, but is generally restricted to a certain number. Any partner may transfer his share; and the company must admit his assignee as a partner. The death of the partners has no effect on the company. No partner can act personally in the affairs of the company: but the execution of their business is intrusted to officers, for whom they are responsible; and, when the partners are numerous, the superintendency of the officers is committed to directors chosen annually, or at other appointed times, by the partners.

3. PARTNERSHIP, IN OCCASIONAL JOINT TRADE, is where two or more merchants agree to employ a certain sum in trade, and divide the gain or loss so soon as the adventure is brought to an issue. This kind of contract being generally private, the parties concerned are not liable for each other. If one of them purchase goods on trust, the furnisher, who grants the credit through confidence in him alone, has no recourse, in case of his insolvency, against the other partners. They are only answerable for the share of the adventure that belongs to the insolvent partner. If it be proposed to carry the adventure farther than originally agreed on, any partner may withdraw his interest; and if it can-

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not be separated from the others, may insist that the whole shall be brought to an issue.

4. PARTNERSHIP IN STANDING COMPANIES is generally established by written contract between the parties, where the stock, the firm, the duration, the division of the gain or loss, and other circumstances, are inserted. All the partners are generally authorised to sign by the firm of the company, though this privilege may be confined to some of them by particular agreement. The firm ought only to be subscribed at the place where the copartnery is established. If a partner has occasion, when absent, to write a letter relating to their affairs, he subscribes his own name on account of the company. When the same partners carry on business at different places, they generally choose different firms for each. The signature of each partner is generally sent to new correspondents; and when a partner is admitted, although there be no alteration in the firm, his signature is transmitted, with an intimation of the change in the copartnery to all their correspondents. Houses, that have been long established, often retain the old firm, though all the original partners be dead or withdrawn. No partner is liable to make good the loss arising from his judging wrong in a case where he had authority to act. If he exceeds his power, and the event prove unsuccessful, he must bear the loss; but if it prove successful, the gain belongs to the company: yet if he acquaints the company immediately of what he has done, they must either acquiesce therein, or leave him the chance of gain, as well as the risk of loss. All debts contracted under the firm of the company are binding on the whole partners, though the money was borrowed by one of them for his private use, without the consent of the rest. And if a partner exceeds his power, the others are nevertheless obliged to implement his engagements; though they may render him responsible for his misbehaviour. Although the sums to be advanced by the partners be limited by the contract, if there be a necessity for raising more money, to answer emergencies or pay the debts of the company, the partners must furnish what is necessary in proportion to their shares. A debt to a company is not cancelled by the private debts of the partner; and when a partner becomes insolvent, the company is not bound for his debts beyond the extent of his share. The debts of the company are preferable, on the company's effects, to the private debts of the partners. Partnership is generally dissolved by the death of a partner; yet, when there are more partners than two, it may, by agreement, subsist among the survivors. Sometimes it is stipulated, that, in case of the death of a partner, his place shall be supplied by his son, or some other person condescended on. The contract ought to specify the time and manner in which the surviving partners shall reckon with the executors of the deceased for his share of the stock, and a reasonable time allowed for that purpose. When a partnership is dissolved, there are often outstanding debts that cannot be recovered for a long time, and effects that cannot easily be disposed of. The partnership, though dissolved in other respects, still subsists for the management of their outstanding affairs; and the money arising from them is divided among the partners, or their representatives, when it is recovered. But as this may protract the final settlement of the company's affairs to a very inconvenient length, other methods are sometimes used to bring them to a conclusion, either in consequence of the original contract, or by agreement at the time of dissolution. If a partner withdraw he continues responsible for his former partn till it be publicly known that he hath done A deed of separation, registered at a public office, and announced in the Gazette, is sufficient presumption of such notoriety.

(1.) PARTON, [Gael. *i. e.* the *hill top*,] a ri[ch] of Scotland, in Kirkcudbrightshire, 5 m[iles] square, about 12 miles from the sea. The a[ir] salubrious; the surface hilly; the soil light [and] sandy; oats, barley, and potatoes are the c[hief] crops. About 400 acres are under oats. I[t] watered by the Dee, the Ken, and 7 small la[kes] abounding with trouts. The population in 17[55] was 409; increase 13, since 1755: number[s] horses, 120; sheep, 3000; goats, 60; and bl[ack] cattle 1000. There are relics of a Druidical cir[cle] and 2 artificial mounts.

(2.) PARTON, a village in the above parish, w[ith] a church, half a mile from the conflux of [the] Dee and the Ken.

(3.) PARTON, a sea port of England, in C[um]berland, 3 miles N. of Whitehaven.

* PARTOOK. Preterite of *partake*.

(1.) * PARTRIDGE. *n. s.* [*perdrix*, Fr. *per*[*drix*] Welsh; *perdix*, Lat.] A bird of game.—Thy [soul] is come out to seek a flea, as when one doth h[unt] a *partridge* in the mountains. 1 *Sam.* xxvi. 20.

(2.) PARTRIDGE, in ornithology. See T[ETRAO]. The places partridges delight in most corn fields, especially whilst the corn grows, under that cover they shelter and breed; and t[hey] are frequented by them when the corn is down for the grain. In the furrows, amongst clots, branches, and long grass, they hide [themselves] themselves and coveys, which are sometime[s] in number, nay 30, in a covey. When winter arrived, and the stubble fields are ploughed or over-soiled with cattle, partridges resort the upland meadows, and lodge in the dead-g[rass] or fog under hedges, amongst mole-hills, or der the roots of trees; sometimes they reso[rt] coppices and under-woods, especially if any c[orn] fields are adjacent, or where there is grown bro[om] brakes, fern, &c. In harvest, when every fie[ld] full of men and cattle, in the day they are fo[und] in fallow fields adjoining to corn fields, w[here] they lie lurking till evening or morning, and among the sheaves of corn. This bird contribut[es] much to the pleasures of the table, that many pedients were formerly in use to take them a[s] Having deceived the timid creatures by an ha[wk] imitation of their notes, it was easy to e[ntice] them into the snare; but their destruction is almost entirely reserved for the murderous of the sportsman. The partridges of Abyssinia said to be as large as *capons*.

PARTRIDGEFIELD, a township of M[assa]chusetts, in Berkshire county; 128 miles W. Boston; containing 1041 citizens, in 1795.

* PARTURIE[NT]

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* PARTURIENT. *adj.* [*parturiens*, Latin.] About to bring forth.

(1.) * PARTURITION. *n. f.* [from *parturio*, Latin.] The ſtate of being about to bring forth.—Conformation of parts is required, not only unto the previous conditions of birth, but alſo unto the *parturition* or very birth. *Brown.*

(2.) PARTURITION is rather the act of bringing forth, or being delivered of young. See MIDWIFERY.

(1.) * PARTY. *n. f.* [*parté*, Fr.] 1. A number of perſons confederated by ſimilarity of deſigns or opinions in oppoſition to others; a faction.—When any of theſe combatants ſtrips his terms of ambiguity, I ſhall think him a champion for truth, and not the ſlave of vain glory or a *party*. *Locke.*—This account of *party* patches will appear improbable to thoſe, who live at a diſtance from the faſhionable world. *Addiſon.*—*Party* writers are ſo ſenſible of the ſecret virtue of an *incognito*, that they never mention the q—n at laſt. *Spectator.*—This *party* rage in women only ſerves to aggravate animoſities that reign among them. *Addiſon.*—As he never leads the converſation into the violence and rage of *party* diſputes, I liſtened to him with pleaſure. *Tatler.*—Diviſion between thoſe of the ſame *party*, expoſes them to their enemies. *Pope.*—The moſt violent party-men are ſuch, as, in the conduct of their lives, have diſcovered leaſt ſenſe of religion or morality. *Swift.* 2. One of two litigants.—When you are hearing a matter between *party* and *party*, if pinched with the cholick, you make faces like mummers, and diſmiſs the controverſy more entangled by your hearing: all the peace you make in their cauſe, is calling both *parties* knaves. *Shak.*—The cauſe of both *parties* ſhall come before the judges. *Exodus* xxii. 9.—If a biſhop be a *party* to a ſuit and excommunicates his adverſary; ſuch excommunication ſhall not bar his adverſary from his action. *Ayliffe.* 3. One concerned in any affair.—

Free'd and enfranchis'd not a *party* to
The anger of the king. *Shak.*
I do ſuſpect this traſh
To be a *party* in this injury. *Shak.*

4. Side; perſons engaged againſt each other.—

The peace both *parties* want is like to laſt.
Dryden.

5. Cauſe; ſide.—

Ægle came in, to make their *party* good. *Dryd.*

6. A ſelect aſſembly.—

I'll have a *party* at the Bedford-head. *Pope.*—If the clergy would a little ſtudy the arts of converſation, they might be welcome at every *party*. *Swift.* 7. Particular perſon; a perſon diſtinct from, or oppoſed to, another.—She was ſtopped with a number of trees, ſo thickly placed together, that ſhe was afraid ſhe ſhould, with ruſhing through, ſtop the ſpeech of the lamentable *party*. *Sidney.*—The miniſter of juſtice may, for quick example virtuouſly will the execution of ſome *party*, whoſe pardon another for conſanguinity's ſake, as virtuouſly may deſire. *Hooker.*—If the *party* found, that the *party* ſlain was of Engliſh race, it had been adjudged felony. *Davies.*—Shall thou bring me to the *party*? *Shak.*—The ſmoke received into the noſtrils, cauſes the *party* to lie as if he were drunk. *Abbot.*—The imagination of the *party* to be cured is not needful to concur; for it may be done without the knowledge of the *party* wounded. *Bacon.*—There is nothing left to be done by the offended *party*, but to return to charity. *Taylor.*—Though there is a real difference between one man and another, yet the *party*, who has the advantage, uſually magnifies the inequality. *Collier.* 8. A detachment of ſoldiers: as, he commanded the *party* ſent thither.

(2.) PARTY, *adj.* Of or belonging to a party; joined with a party. The authorities above quoted by Dr JOHNSON, (§ 1, *def.* 1.) of "*party patches*, *party writers*, *party rage*, and *party diſputes*," are plainly examples of the *adjective* noun, and ought not to have been adduced as examples of the *noun ſubſtantive*.

(3.) PARTY, in a military ſenſe, (§ 1, *def.* 8.) a ſmall number of men, horſe, or foot, ſent upon any kind of duty; as into an enemy's country to pillage, to take priſoners, and to oblige the country to come under contribution. Parties are often ſent out to view the roads and ways, get intelligence, ſeek forage; to reconnoitre, or amuſe the enemy upon a march: they are alſo frequently ſent upon the flanks of an army or regiment, to diſcover the enemy if near, and prevent ſurpriſe or ambuſcade.

(4.) PARTY, in heraldry. See PARTI.

* PARTY-COLOURED. *adj.* [*party* and *coloured*.] Having diverſity of colours.—

The fulſome ewes,
Then conceiving, did, in yeaning time,
Fall *party-colour'd* lambs. *Shak. Merch. of Ven.*—The leopard was valuing himſelf upon the luſtre of his *party-coloured* ſkin. *L'Eſtrange.*—

Both girt with gold, and clad in *party-colour'd* cloth. *Dryd.*
Conſtrain'd him in a bird, and made him fly
With *party-colour'd* plumes a chattering pie.
Dryden.

—I looked with as much pleaſure upon the little *party-coloured* aſſembly, as upon a bed of tulips. *Spectator.*—

Nor is it hard to beautify each mouth
With files of *party-colour'd* fruits. *Philips.*
Four knaves in garb ſuccinct, a truſty band,
And *party-coloured* troops, a ſhining train,
Draw forth a combat on the velvet plain. *Pope.*

* PARTY-JURY. *n. f.* [In law.] A jury in ſome trials, half foreigners and half natives.

* PARTY-MAN. *n. f.* [*party* and *man*.] A factious perſon; an abettor of a party.—

* PARTY-WALL. *n. f.* [*party* and *wall*.] Wall that ſeparates one houſe from the next.—'Tis an ill cuſtom among bricklayers to work up a whole ſtory of the *party-walls*, before they work up the fronts. *Mox.*

(1.) PARU, in ichthyology, a very ſingular American fiſh. It is broad, flat, and rounded; not very thick, and uſually of about 5 or 6 inches long, and more than 4 broad. It has ſix fins, one large and long, one on the back, and another on the belly behind the anus; each of theſe reaches to the tail, and has towards the end a long ſtring or cord, made of a ſingle filament, that on the back fin being longer than that on the belly; behind the gills it has alſo two fins of two fingers breadth

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breadth long and one broad; and two others on the belly, which are very narrow; its head is ſmall, and its mouth elevated and ſmall, and furniſhed with ſmall teeth; its ſcales are of a moderate ſize, and are half black and half yellow, ſo that the fiſh appears of a black colour, variegated with yellow half moons; its gills, and the beginning of its fins, are alſo yellow; and it has, on each ſide near the head, a yellow ſpot; it is eatable.

(2.) PARU, in geography, a fort of Brazil, in Para, on the N. bank of the Amazoa. Lon. 53. 10. W. Lat. 1. 30. S.

PARVICH, an iſland of Maritime Auſtria, near Dalmatia, and one of the beſt peopled and moſt conſiderable of thoſe which are under the juriſdiction of Sebenico. It contains a great number of fiſhermen, and perſons who follow agriculture. It contains many Roman antiquities, which ſhow that it was a Roman ſtation. It ſeems to be among the number of thoſe iſlands which Pliny calls *Celadusſæ*, which is ſuppoſed to be an inverſion of δυσηλάδες, which means *ill-ſounding* or *noiſy*. It is not large, but it is extremely fertile. Every product ſucceeds in perfection there; particularly vines, olives, mulberry trees, and fruits. The aſpect of this iſland is very pleaſant at a diſtance. The name *Parvich* is derived from its being the *firſt* iſland met with on going out of the harbour of Sebenico; for the Illyric word *parvi* ſignifies *firſt*.

PARVICHIO, an iſland of Maritime Auſtria, on the coaſt of Dalmatia, S. of Velia, one of the Quarnaro iſlands. It has a harbour called *Dubaz*.

* PARVIS. *n. ſ.* [Fr.] A church or church-porch: applied to the mootings or law-diſputes among young ſtudents in the inns of courts, and alſo to that diſputation at Oxford, called *diſputatio in parvis*. *Bailey*.

* PARVITUDE. *n. ſ.* [from *parvus*, Latin.] Littleneſs; minuteneſs. Not uſed.—The little ones of *parvitude* cannot reach to the ſame floor with them. *Glanville*.

* PARVITY. *n. ſ.* [from *parvus*, Lat.] Littleneſs; minuteneſs. Not uſed.—What are theſe for fineneſs and *parvity*, to thoſe minute animalcula diſcovered in pepper-water? *Ray*.

PARULIDES, in ſurgery, tumours and inflammations of the gums, commonly called *gum boils*. They are to be treated with diſcutients like other inflammatory tumours.

PARUS, the TITMOUSE, in ornithology, a genus belonging to the order of paſſeres. The bill is very entire, covered at the baſis with hairs; the tongue is truncated and hairy. There are 14 ſpecies; of which the moſt remarkable are theſe:

1. PARUS BIARMICUS, *the bearded titmouſe*, has a ſhort, ſtrong, and very convex bill, of box colour; the head of a fine grey; the chin and throat white; the middle of the breaſt fleſh-coloured; the ſides and thighs of a pale orange; the hind part of the neck and back of orange bay; the tail is two inches and three quarters long; the legs of a deep ſhining black. The female wants the fleſh-colour on the breaſt, and a triangular tuft of black feathers on each ſide the bill which adorn the male. They are found in marſhy places.

2. PARUS CÆRULEUS, *the blue titmouſe*, is a very beautiful bird. The bill is ſhort and duſky; the crown of the head a fine blue; from the bi the eyes is a black line; the forehead and ch white; the back of a yellowiſh green; the l ſide of the body yellow; the wings and tail the former marked tranſverſely with a white the legs of a lead colour. They frequent gard and do great injury to fruit trees, by bruiſin tender buds in ſearch of the inſects which li der them. They breed in holes of walls, an 12 or 14 eggs.

3. PARUS CANDATUS, *the long-tailed titmo* about 5¼ inches, long and 7 inches broad. Th is black, very thick and convex, differing fro others of this genus. The top of the head, the bill to the hind part, is white, mixed w few dark grey feathers: this bed of white i tirely ſurrounded with a broad ſtroke of b which, riſing on each ſide of the upper man paſſes over each eye, unites at the hind part head, and continues along the middle of the to the rump. The feathers on each ſide o black ſtroke are of a purpliſh red, as are tho mediately incumbent on the tail. The tail longeſt, in proportion to the bulk, of any bird, being in length three inches, the for unlike that of a magpie, conſiſting of 12 fe of unequal lengths, the middlemoſt the lo thoſe on each ſide growing gradually ſh Theſe birds are often ſeen paſſing through ou dens, going from one tree to another, as if in road to ſome other place, never making an They make their neſts with great elegance, oval ſhape, and about eight inches deep, near the upper end a hole for admiſſion. T ternal materials are moſſes and lichens cu interwoven with wool. On the inſide it warmly lined with a thick bed of feathers. female lays from 10 to 17 eggs. The you low their parents the whole winter; and, fr ſlimneſs of their bodies, and great length appear, while flying, like as many darts cutti air. See *Plate* CCLXVIII.

4. PARUS CRISTATUS, *the creſted titmouſe*, 13 pennyweight; the bill is black, with a the ſame colour above it; all the upper the body grey; the neck and under par white, with a faint tincture of red, which i eſt juſt below the wings. The legs are of colour. It erects its crown feathers into They inhabit the warm parts of North An and frequent foreſt-trees, feeding upon

5. PARUS MAJOR, *the great titmouſe*, h head and throat black, the cheeks whit back green, the belly yellowiſh green, in the middle by a line of black which ext the vent; the rump a bluiſh grey, the le lead colour, the toes divided to the very and the back toe very large and ſtrong. T cies ſometimes viſit our gardens; but for th part inhabit woods where they build in trees, laying about ten eggs. They feed on which they find in the bark of trees. In they do a great deal of miſchief by picking tender buds of the fruit trees. Like woo ers, they are perpetually running up and the bodies of trees in queſt of food. This has three cheerful notes, which they begin in February.

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6. PARUS PENDULINUS, *the* REMIZ, or *small titmouse*. It is often found in Lithuania. Mr Coxe, in his Travels through Poland, gives the following account of this little animal. "The wondrous ſtructure of its pendent neſt induced me to give an engraving of both that and the birds themſelves. (See *Plate* 268.) They are the ſmalleſt ſpecies of titmice. The head is of a pale bluiſh aſh colour; the fore part of the neck and the breaſt tinged with red; the belly white; wings black; back and rump of a yelloviſh ruſt colour; quill feathers cinereous, with the exterior ſides white; the tail ruſt-coloured. The male is ſingularly diſtinguiſhed from the female by a pair of black pointed whiſkers. Its neſt is in the ſhape of a long purſe, which it forms with amazing art, by interweaving down, goſſamer, and minute fibres, in a cloſe and compact manner, and then lining the inſide with down alone, ſo as to make a ſnug and warm lodge for its young brood. The entrance is at the ſide, ſmall, and round, with its edge more ſtrongly marked than the reſt of this curious fabric: the bird, attentive to the preſervation of its eggs or little ones from noxious animals, ſuſpends it at the leſſer end to the extremity of the ſlender twigs of a willow or ſome other tree over a river. Contrary to the cuſtom of titmice, it lays only four or five eggs: poſſibly Providence hath ordained this ſcantineſs of eggs to the remiz, becauſe by the ſingular inſtinct imparted to it, it is enabled to ſecure its young much more effectually from deſtruction, than the other ſpecies which are very prolific."

7. PARUS VIRGINIANUS, *the yellow rump*, is found in Virginia; and is diſtinguiſhed by a yellow ſpot on it rump. All the reſt of the feathers are brown, with a ſlight tincture of green. They run about the bodies of trees; and feed on inſects, which they pick from the crevices of the bark.

PARUTA, Paul, a noble Venetian, born in 1540; diſtinguiſhed for his learning, and knowledge as a Statesman. He filled ſeveral high offices; was ſent on ſeveral embaſſies; was appointed governor of Breſcia, and procurator of St Mark; in all which he ſhowed great abilities and probity. He wrote, 1. Notes upon Tacitus: 2. Political Diſcourſes: 3. A Treatiſe of the Perfection of the Political Life: 4. A Hiſtory of Venice, from 1513 to 1572, with the War of Cyprus; all in Italian. He died in 1598.

PARWAN, a town of Cabul, 63 miles NW. of Cabul.

PARWIS, a town of Tirol, 18 miles WNW. of Inſpruck.

PARYS, or PARIS. See PARIS, N° 4.

PARYSATIS, an infamous Perſian Queen, wife of Darius Nothus, and mother of Artaxerxes Mnemon, and Cyrus the younger. Her partiality for Cyrus led her to commit the greateſt injuſtice and barbarities; and ſhe poiſoned Statira, the wife of Artaxerxes. See PERSIA.

(1.) * PAS. *n. ſ.* [French.] Precedence; right of going foremoſt.—When ſhe came into any full aſſembly, ſhe would not yield the *pas* to the beſt of them. *Arbuthnot.*

(2.) PAS, in geography, a town of France, in the dep. of the Straits of Calais; 6 miles E. of Doullens, and 13¼ SW. of Arras.

(3.) PAS DE CALAIS, or STRAITS OF CALAIS. See CALAIS, N° 4. alſo DOVER, N° 9.

PASAICK, a large river of New Jerſey, which riſes in Morris county, runs 12 miles SE. then turns NE. and receives a large ſupply of waters from the rivers Romopack, Kingwood, and Peguinock; then running NE. paſſes by the town of Patterſon, over the Little and Great Falls; after which, it runs ſeveral miles SE. and S. and falls into Newark bay, where its mouth is 400 yards broad. It is navigable 10 miles up to the Great falls, where it is 40 yards broad, and falls over a rock 80 feet perpendicular. There is a bridge over this river 40 feet long.

PASAKAMENITZ, a town of Bohemia, in Chrudim; 8 miles WNW. of Politzka.

PASANGA, an iſland in the E. Indian Ocean, near the W. coaſt of Sumatra. Lat. 5. 10. S.

PASARGADA, a town of Perſia, near Caramania, founded by Cyrus the Great, on the ſpot where he conquered Aſtyages. The kings of Perſia were afterwards crowned in it. *Strabo*, 15. *Plin.* viii, 26. *Herod.* 1, 125.

PASARGADÆ, one of the nobleſt families of ancient Perſia. The ACHEMENIDES were a tribe of it.

(1.) PASCAGOOLA, or (1.) PASCAGOULA, a town of Weſt Florida. Lon. 88. 32. W. Lat. 30. 30. N.

(2.) PASCAGOULA, a river of Georgia, which runs through W. Florida, paſſes the above town, to which it gives name, and falls into the Gulf of Mexico, by ſeveral mouths, which occupy a ſpace of near 4 miles; which is one continued bed of oyſter ſhells. It is navigable above 150 miles.

(1.) PASCAL, Stephen, a French gentleman, of an ancient family, born in 1588. He was preſident of the court of aids in Auvergne; he was a very learned man, an able mathematician, and a friend of Deſcartes. Having an extraordinary tenderneſs for his only ſon, he quitted his office in his province, and went and ſettled at Paris in 1631, that he might be quite at leiſure for the inſtruction of him; and Blaiſe never had any maſter but his father.

(2.) PASCAL, Blaiſe, one of the greateſt geniuſes, and beſt writers France has produced, was born at Clermont in Auvergne, in 1623. From his infancy he gave proofs of a very extraordinary capacity. His father had kept all mathematical books out of his way, leſt they ſhould interrupt his ſtudy of the languages; but, by intuition alone, he advanced conſiderably in the knowledge of mathematics, without knowing a ſingle term. He underſtood Euclid's Elements as ſoon as he caſt his eyes upon them. At 16 years of age, he wrote *A Treatiſe of Conic Sections*, which was accounted by the moſt learned, a mighty effort of genius. At 19, he contrived an admirable arithmetical machine, which would have done credit to any man verſed in ſcience. About this time his health became impaired, and he was in conſequence obliged to ſuſpend his labours for 4 years. In his 23d year, having ſeen Torricelli's experiment reſpecting a vacuum and the weight of the air, he turned his thoughts towards theſe objects; and he publiſhed the reſult of a variety of experiments, in two ſmall treatiſes, the one entitled

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titled, *A Dissertation on the Equilibrium of Liquors*; and the other, *An Essay on the Weight of the Atmosphere*. These labours procured him so much reputation, that the greatest mathematicians and philosophers of the age consulted him about such difficulties as they could not solve. But his career, though brilliant, was ordained to be but short. His health declined so rapidly, that he was obliged to renounce all severe study, and betook himself to devotion, which he carried to such a mistaken degree, as to inflict on himself the most severe tortures. He died at Paris 1662, aged 39 years. Besides the works above mentioned, he wrote *Lettres Provinciales*, satirizing the Jesuits, and some religious pieces. His works were collected by Bossu, in 5 vols. 8vo.

PASCATAQUA. See PISCATAQUA.

(1.)* PASCHAL. *adj.* [*pascal*, French: *paschalis*, Latin.] 1. Relating to the passover. 2. Relating to Easter.

(2.) PASCHAL. See PASSOVER and EASTER.

PASCOMAYO, a sea port town of Peru, in the prov. of Sana, and bishopric of Truxilio.

PASCUAR, or PASQUARO, a town of Mexico, in Mechoacan; 18 miles SW. of Mechoacan.

PAS-EP-A, the chief of the Lamas, particularly eminent for having invented characters for the Moguls. He was much esteemed by the Chinese. There is still at Pekin a *myau* or temple, built in honour of Pas-ep-a in the time of the Mogul emperors. He died in 1279.

PASEWALK, a town of Pomerania, on the Ucker, by which it exports goods; belonging to Prussia. It has iron works, and lies 21 miles W. of Old Stettin, and 66 SSE. of Stralsund. Lon. 31. 43. E. Ferro. Lat. 53. 27. N.

* PASH. *n. s.* [*paz*, Spanish, a kiss.] A face. *Hanmer.*—

Thou want'st a rough *pash*. *Shak.*

* *To* PASH. *v. a.* [*persse*, Dutch.] To strike; to crush.—

I'll *pash* him o'er the face. *Shak.*

Thy cunning engines have with labour rais'd
My heavy hanger, like a mighty weight,
To fall and *pash* thee dead. *Dryden.*

PASIGRAPHY, *n. s.* [from πᾶς, *all* or *whole*, and γράφω, to write,] "the art of writing on any subject so as to be understood by all nations." Schemes of UNIVERSAL CHARACTERS, to answer this purpose have been proposed by different ingenious men; (See CHARACTER, § II, i. N° 5,) but the practicability, of introducing such characters to universal use, is generally doubted. "In France," (says the learned Dr Gleig,) "where every thing is admired that is new, and every vagary of a pretended philosopher thought practicable, a propofal has been made to introduce one universal language into the world, constructed by a few metaphysicians on the laws of human thought. And to this language, in its written form, is to be given the name of *Pasigraphy*." (So the Dr spells it.) "Such readers as think this idle dream worthy their attention, (which is far from being the case with us,) will find some ingenious thoughts on the history of a Philosophical Language, in the 2d vol. of *Nicholson's Journal of Natural Philosophy*, &c. *Enc. Brit.* Supp.

PASIPHAE, in fabulous history, daughter of Apollo, by Perseis, and wife of Minos, king of Crete, and mother of the Minotaur. See DÆDALUS, N° 1, MINOS II, and MINOTAUR.

PASITANO, a sea port town of Naples, on the bay of Salerno, a few miles W. of Amalfi famous for being the birth place of Flavius Bembo, or Gioia, the inventor of the Mariner's Compass. See BEMBO, N° 1.

PASITHEA, one of the three GRACES.

PASITIGRIS, a name of the TIGRIS.

PASKA, a town of Africa, in the kingdom of Fonia, where the king keeps a garrison. It is surrounded with 6 rows of palisadoes.

PASMAN, an island of Maritime Austria, near the coast of Dalmatia; 18 miles long, and broad; containing 7 villages, a convent in its centre, and a monastery on its E. point. It abounds with vines and olives, and the people have oil and wine, &c. in plenty.

PASOMDSO, a lake of Thibet, 48 miles in circumference. Lon. 112. 10. E. Ferro. Lat. 42. 42. N.

PASOR, Matthias, a learned German divine of the 17th century, born at Herborne, in Westphalia. He became professor of divinity at Groningen, and afterwards of mathematics at Heidelburg. On the invasion of the Palatinate, he came over to England, and read lectures at Oxford, on Hebrew and mathematics; and was afterwards appointed professor of oriental languages in the university. He died in 1658.

PASPALUM, in botany, a genus of the Digynia order, belonging to the Triandria class of plants; and in the natural method ranking under the 4th order *Gramina*.

(1.) PASPAYA, a mountainous, but fertile province of Peru in La Plata; abounding in grain and fruits.

(2.) PASPAYA, a town in the above province 120 miles from the city of Plata.

PASQUA, a town of Mexico, in New Galicia at the mouth of a river, on the N. Pacific Ocean 25 miles SE. of Cape Corientas, and 310 W. Mexico.

PASQUARO. See PASCUAR.

PASQUATAQUA. See PISCATAQUA.

(1.) * PASQUE-FLOWER. *n. s.* [*pulsatil* Lat.] A flower. *Mill.*

(2.) PASQUE-FLOWER. See ANEMONE, § III.

PASQUETANK. See PASQUOTANK.

(1.) PASQUIER, Stephen, a learned French lawyer, poet and historian, born at Paris, in 15[illegible]. He became an advocate in parliament, afterwards counsellor, and at last advocate general, under Henry III. all of which he filled with abilities and reputation. His works, which were published together, consist of Letters, Inquiries, Poems, Portraits, Epigrams, Epitaphs, &c. His poem entitled *Puce*, occasioned by his observing a flea on the breast of the learned Catherine De Roche made no small noise. He died at Paris, Aug. [illegible] 1615, aged 87.

(2—4.) PASQUIER, Theodore, Nicolas, and Guy, sons of the preceding, were also eminent for learning. Theodore was colleague and successor to his father as advocate general; Guy was audit

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auditor of accompts, and Nicolas was maſter of requeſts. He publiſhed *Letters*, containing diſcourſes upon the occurrences in France, in the reigns of Henry IV. and Lewis XIII.

PASQUIL. See PASQUINADE, § 1.

PASQUIMANS. See PARQUIMANS.

(1.) PASQUIN, a mutilated ſtatue at Rome, in a corner of the palace of the Urſini. It takes its name from a cobler of that city, called *Paſquin*, famous for his ſneers and gibes, and who diverted himſelf by paſſing his jokes on all that went through that ſtreet. After his death, as they were digging up the pavement before his door, they found in the earth the ſtatue of an ancient gladiator, well cut, but maimed and half ſpoiled: this they ſet up in the place where it was found, and by common conſent named it *Paſquin*. Since that time all ſatires are attributed to that figure; and are either put into its mouth, or paſted upon it, as if they were written by Paſquin redivivus; and theſe are addreſſed by Paſquin to Marforio, another ſtatue at Rome. When Marforio is attacked, Paſquin defends him; and when Paſquin is attacked, Marforio aſſiſts him in his turn; that is, the people make the ſtatues ſpeak juſt what they pleaſe.

(2.) * PASQUIN, PASQUIL. } *n. ſ.* [from *paſ-*
(1.) * PASQUINADE. } *quino*, a ſtatue at Rome, to which they affix any lampoon or paper of ſatirical obſervation.] A lampoon.—He never valued any *paſquils* that were dropped up and down. *Howel.*—The *paſquils*, lampoons, and libels, we meet with now-a-days, are a ſort of playing with the four and twenty letters, without ſenſe, truth, or wit. *Tatler.*

(2.) *A* PASQUINADE is a ſatirical libel faſtened to the ſtatue of PASQUIN: theſe are commonly ſhort, witty, and pointed; and from hence the term has been applied to all lampoons of the ſame caſt.

(1.) PASQUOTANK, a county of N. Carolina, in Edenton diſtrict; bounded on the N. by Camden, E. by Currituck, S. by Albemarle Sound, and W. by Parquimans county. In 1795, it contained 5874 citizens, and 1623 ſlaves. A county court is held at the court-houſe the 1ſt Monday in March, June, Sept. and Dec.

(2.) PASQUOTANK, a river of N. Carolina, which riſes in Great Diſmal Swamp, and running nearly S. by W. and then SE. paſſes Hertford, and falls into Albemarle Sound.

(1.) * PASS. *n. ſ.* [from the verb.] 1. A narrow entrance; an avenue.—

The ſtraight *paſs* was damm'd
With dead men. *Shak.*

—It would be eaſy to defend the *paſſes* into the whole country, that the king's army ſhould never be able to enter. *Clar.*—Truth is a ſtrong hold, and diligence is properly the underſtanding's laying ſiege to it; ſo that it muſt be perpetually obſerving all the avenues and *paſſes* to it. *South.* 2. Paſſage; road.—The Tyrians had no *paſs* to the Red Sea, but through the territory of Solomon. *Raleigh.*—

Pity tempts the *paſs*. *Dryden.*

3. A permiſſion to go or come any where.—They ſhall protect all that come in, and ſend them to the lord deputy, with their ſafe conduct or *paſs*, to be at his diſpoſition. *Spenſer.*—

When evil deeds have their permiſſive *paſs*,
And not the puniſhment. *Shak.*

Give quiet *paſs*
Through your dominions. *Shak.*

If ever fate would ſign my *paſs*, delaid
It ſhould be now no more. *Chapman.*

—A gentleman had a *paſs* to go beyond the ſeas. *Claren.* 4. An order by which vagrants or impotent perſons are ſent to their place of abode. 5. Puſh; thruſt in fencing.—

'Tis dangerous when the baſer nature comes
Between the *paſs* and fell incenſed points
Of mighty oppoſites. *Shak.*

—The king hath laid, that in a dozen *paſſes* between you and him, he ſhall not exceed you three hits. *Shak.*—

With ſeeming innocence the crowd beguil'd;
But made the deſperate *paſſes*, when he ſmil'd.
Dryden.

6. State; condition.—To what a *paſs* are our minds brought, that, from the right line of virtue, are wryed to theſe crooked ſhifts? *Sidney.*—After King Henry united the roſes, they laboured to reduce both Engliſh and Iriſh, which work, to what *paſs* and perfection it was brought, in queen Elizabeth's reign, hath been declared. *Davies's State of Ireland.*—

Thou did'ſt to this *paſſe*, my affections move.
Chapman.

—I am now brought to ſuch *paſs*, that I can ſee nothing at all. *L'Eſtrange.*—Matters have been brought to this *paſs*, that if one among a man's ſons had any blemiſh, he laid him aſide for the miniſtry. *South.*

(2.) *A* PASS, in a military ſenſe, is a ſtrait and difficult paſſage, which ſhuts up the entrance into a country.

(3.) PASS. See PASSADO, § 2.

(4.) PASS PAROLE, in military affairs, a command given at the head of an army, and thence communicated to the rear, by paſſing it from mouth to mouth.

(1.) * *To* PASS. *v. n.* [*paſſer*, French; *paſſus*, a ſtep, Latin.] 1. To go; to move from one place to another; to be progreſſive. Commonly with ſome particle.—

Teli him his long trouble is *paſſing*
Out of this world. *Shak.*

—If I have found favour in thy ſight, *paſs* not *away* from thy ſervant. *Geneſis.*—While my glory *paſſeth by*, I will put thee in a clift of the rock, and will cover thee, while I *paſs by*. *Exodus* xxxiii. 22.—Thus will I cut off him that *paſſeth out*, and him that returneth. *Ezekiel* xxxv. 7.—This heap and this pillar be witneſs, that I will not *paſs over* to thee, and that thou ſhall not *paſs over* it and this pillar unto me for harm. *Geneſis* xxxi. 52.—An idea of motion not *paſſing on*, is no better than an idea of motion at reſt. *Locke.*—

He felt their fleeces as they *paſs'd along*. *Pope.*—If the cauſe be viſible, we ſtop at the inſtrument, and ſeldom *paſs on* to him that directed it. *Wake's Prep. for Death.* 2. To go; to make away.—

Her face, her hands were torn
With *paſſing* through the brakes. *Dryden.*

3. To make a change from one thing to another.—Others diſſatisfied with what they have, and

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not trufting to thofe innocent ways of getting more, fall to others, and *paſs* from juſt to unjuſt. *Temple.* 4. To vaniſh; to be loſt.—

Beauty's a charm, but ſoon the charm will *paſs*. *Dryden.*

5. To be ſpent; to go away progreſſively.—The time, when the thing exiſted, is the idea of that ſpace of duration, which *paſſed* between ſome fixed period and the being of that thing. *Locke.*—One who fixes his thoughts very intently on one thing, ſo as to take but little notice of the ſucceſſion of ideas that *paſs* in his mind, whilſt he is taken up with that earneſt contemplation, lets ſlip out of his account a good part of that duration, and thinks that time ſhorter than it is. *Locke.* 6. To be at an end; to be over.—

Eager Romans, ere all rites were *paſt*,
Did let too ſoon the ſacred eagle fly. *Dryden.*

7. To die; to paſs from the preſent life to another ſtate.—

The pangs of death do make him grin;
Diſturb him not, let him *paſs* peaceably. *Shak.*

8. To be changed by regular gradation.—Inflammations are tranſlated from other parts to the lungs; a pleurify eaſily *paſſeth* into a peripneumony. *Arbuthnot.* 9. To go beyond bounds. Obſolete.—Why this *paſſes*, Mr Ford:—you are not to go looſe any longer. *Shak.* 10. To be in any ſtate.—I will cauſe you to *paſs* under the rod. *Ezekiel*, xx. 37. 11. To be enacted.—Many of the nobility ſpoke in parliament againſt thoſe things, which were moſt grateful to his majeſty, and which ſtill *paſſed*. *Clarendon.*—Neither of theſe bills have yet *paſſed* the houſe of Commons. *Swift.* 12. To be effected; to exiſt. Unleſs this may be thought a noun with the article ſuppreſſed, and be explained thus: it came to the *paſs* that.—I have heard it enquired, how it might be brought to *paſs* that the church ſhould every where have able preachers. *Hooker.*—When the caſe required diſſimulation, if they uſed it, it came to *paſs* that the former opinion of their good faith made them almoſt inviſible. *Bacon.* 13. To gain reception; to become current: as, this money will not *paſs*.—That trick, ſaid ſhe, will not *paſs* twice. *Hudibras.*—Though frauds may *paſs* upon men, they are as open as the light to him that ſearches the heart. *L'Eſtrange.*—Their excellencies will not *paſs* for ſuch in the opinion of the learned. *Dryd.*—Falſe eloquence *paſſeth* only where true is not underſtood. *Felton.*—The groſſeſt ſuppoſitions *paſs* upon them. *Swift.* 14. To be practiſed artfully or ſucceſsfully.—

This practice hath moſt ſhrewdly *paſt* upon thee. *Shak.*

15. To be regarded as good or ill.—This won't *paſs* for a fault in him, 'till 'tis proved one in us. *Atterbury.* 16. To occur; to be tranſacted.—If we would judge of the nature of ſpirits, we muſt have recourſe to our own conſciouſneſs of what *paſſes* within our own mind. *Watt.* 17. To be done.—Provided that no indirect act *paſs* upon them to defile them. *Taylor.* 18. To heed; to regard. Not in uſe.—

As for theſe ſilken-coated ſlaves, I *paſs* not. *Shak.*

19. To determine finally; to judge capitally.—

Well we may not *paſs* upon his life,
Without the form of juſtice. *Sha*

20. To be ſupremely excellent.—

Sir Hudibras's *paſſing* worth,
The manner how he ſallied forth. *Underwoo*

21. To thruſt; to make a puſh in fencing.—

To ſee thee fight, to ſee thee *paſs* thy punct *She*

They laſh, they foin, they *paſs*, they ſtrive bore
Their corſlets. *Dryd.*

22. To omit.—

She would not play, yet muſt not *paſs*. *Pri*

23. To go through the alimentary duct.—Sſtances hard cannot be diſſolved, but they *paſs*; but ſuch, whoſe tenacity exceeds the pers of digeſtion, will neither *paſs*, nor be conved into aliment. *Arbuthnot.* 24. To be in a lerable ſtate.—A middling ſort of man was well enough to *paſs* by his father. *L'Eſtran.* 25. *To* PASS *away*. To be loſt; to glide off Defining the ſoul to be a ſubſtance that alwthinks, can ſerve but to make many men ſuſpe that they have no ſouls at all, ſince they ſpe good part of their lives *paſs away* without thing. *Locke.* 26. *To* PASS *away*. To vaniſh.

(2.) * *To* PASS. *v. a.* 1. To go beyond.—it is advantageable to a phyſician to be called the cure of a declining diſeaſe; ſo it is for a cmander to ſuppreſs a ſedition, which has *pa* the height. *Hayward.*

2. To go through: as, the horſe *paſſed* the ri

3. To ſpend; to live through.—Were I not ſured he was removed to advantage, I ſhould my time extremely ill without him. *Collier.*—

You know in what deluding joys we *paſ*
The night that was by heav'n decreed our *Dry*

—We have examples of ſuch, as *paſs* moſt of nights without dreaming. *Locke.*—

The people, free from cares, ſerene and
Paſs all their mild untroubled hours away. *Add*

—A lady, who had *paſſed* the winter at Lo with her huſband, entered the congregation. *diſon.* 4. To impart to any thing the powe moving.—Dr Thurſton thinks the principal u inſpiration to be, to move, or *paſs* the blood, the right to the left ventricle of the heart. *ham.* 5. To carry haſtily.—I had only tim *paſs* my eye over the medals. *Addiſon.* 6 transfer to another proprietor.—

He that will *paſs* his land,
As I have mine, may ſet his hand
And heart unto this deed. *He*

7. To ſtrain; to percolate.—They ſpeak vering wine from water, *paſſing* it through wood. *Bacon.* 8. To vent; to pronounce.—many thouſands take upon them to *paſs* cenſures on the perſonal actions of others? —They will commend the work in general *paſs* ſo many fly remarks upon it afterwa ſhall deſtroy all their cold praiſes. *Watts.* utter ceremoniouſly.—Many of the lords, ſome of the commons, *paſſed* ſome compli to the two lords. *Clarendon.* 10. To utt

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lemnly; or judicially.—All this makes it more prudent, rational and pious, to ſearch our own ways, than to *paſs* ſentence on other men. *Hammond.*—He *paſt* his promiſe, and was as good as his word. *L'Eſtrange.* 11. To tranſmit; to procure to go.—Wailer *paſſed* over 5000 horſe and foot by Newbridge. *Clarendon.* 12. To put an end to.—

This night
We'll *paſs* the buſineſs privately. *Shak.*

13. To ſurpaſs; to excel.—

She more ſweet than any bird on bough
Would oftentimes amongſt them bear a part,
And ſtrive to *paſs*, as ſhe could well enough,
Their native muſick by her ſkilful art. *Spenſer.*

—Whom do'ſt thou *paſs* in beauty? *Ezekiel*, xxxi. 19.—

In my royal ſubject I *paſs* thee. *B. Jonſon.*
The anceſtor and all his heirs,
Though they in number *paſs* the ſtars of heav'n,
Are ſtill but one. *Davies.*

14. To omit; to neglect; whether to do or to mention.—

If you fondly *paſs* our proffer'd offer,
'Tis not the rounder of your old fac'd walls
Can hide you. *Shak.*
Pleaſe you that I may *paſs* this doing. *Shak.*
I *paſs* the wars, that ſpotted linxes make
With their fierce rivals. *Dryden.*
I *paſs* their warlike pomp, their proud array. *Dryden.*

15. To tranſcend; to tranſgreſs.—They did *paſs* thoſe bounds, and did return ſince that time. *Burnet.* 16. To admit; to allow.—The money of every one that *paſſeth* the account, let the prieſts take. 2 *Kings*, xii. 4.—

I'll *paſs* them all upon account. *Hudibras.*

17. To enact a law.—How does that man know, but the decree may be already *paſſed* againſt him? *South.*—

Among the laws that *paſs'd*, it was decreed,
That conquer'd Thebes from bondage ſhould be freed. *Dryden.*

—Could the ſame parliament which addreſſed with ſo much zeal and earneſtneſs againſt this evil, *paſs* it into a law? *Swift.*—His majeſty's miniſters propoſed the good of the nation, when they adviſed the *paſſing* this patent. *Swift.* 18. To impoſe fraudulently.—

Th' indulgent mother did her care employ,
And *paſs'd* it on her huſband for a boy. *Dryden.*

19. To practice artfully; to make ſucceed.—After that diſcovery there is no *paſſing* the ſame trick upon the mice. *L'Eſtrange.* 20. To ſend from one place to another: as, *paſs* that beggar to his own pariſh. 21. *To* PASS *away*. To ſpend; to waſte.—The father waketh for the daughter, left ſhe *paſs away* the flower of her age. *Ecclus.* xlii. 9. 22. *To* PASS *by*. To excuſe; to forgive.—God may *paſs by* ſingle ſinners in this world. *Tillotſon.* 23. *To* PASS *by*. To neglect; to diſregard.—How far ought this enterprize to wait upon theſe other matters, to be mingled with them, or to *paſs by* them? *Bacon.*—It conduces much to our content, if we *paſs by* thoſe things which happen to our trouble. *Taylor.*—Certain paſſages of ſcripture we cannot, without injury to truth, *paſs by* here in ſilence. *Burnet.* 24. *To* PASS *over*. To omit; to let go unregarded.—

Better to *paſs* him *o'er*, than to relate
The cauſe I have your mighty ſire to hate. *Dryden.*

—It does not belong to this place to have that point debated, nor will it hinder our purſuit to *paſs* it *over* in ſilence. *Watts.*—The poet *paſſes* it *over* as haſtily as he can. *Dryden.*—The queen aſked him, who he was; but he *paſſes over* this without any reply. *Broome.*

PASSA, a town of Perſia, in Farſiſtan.

* PASSABLE. *adj.* [*paſſible*, Fr. from *paſs*.] 1. Poſſible to be paſſed or traveiled through or over.—His body is a *paſſable* carkaſs, if he be not hurt. *Shak.*—Antiochus departed in all haſte, weening in his pride to make the land navigable, and the ſea *paſſable* by foot. 2 *Mac.* 2. Supportable; tolerable; allowable.—They are crafty, and of a *paſſable* reach of underſtanding. *Howel.*—Lay by Virgil; my verſion will appear a *paſſable* beauty when the original muſe is abſent. *Dryden.*—White and red, well mingled on the face, make what was before but *paſſable*, appear beautiful. *Dryden.* 3. Capable of admiſſion or reception.—In counterfeits, it is with men as with falſe money; one piece is more or leſs *paſſable* than another. *L'Eſtrange.*—Could they have made the ſlander *paſſable*, we ſhould have heard farther. *Collier.* 4. Popular; well received. This is a ſenſe leſs uſual.—Where there is no eminent odds in ſufficiency, it is better to take with the more *paſſable*, than with the more able. *Bacon.*—A man of the one faction, which is moſt *paſſable* with the other, commonly giveth beſt way. *Bacon.*

PASSACAILLE. See MUSIC, § 252.

(1.) PASSADE, in fencing. See PASSADO.

(2.) PASSADE, *n. ſ.* in the manege, is a turn or courſe of a horſe backwards or forwards on the ſame ſpot of ground. Hence there are ſeveral ſorts of paſſades, according to the different ways of turning, in order to part or return upon the ſame tread, which is called *cloſing the paſſade*; as the paſſade of one time, the paſſade of five times, and the raiſed or high paſſades, into which the demivolts are made into curvets. See HORSEMANSHIP.

(1.) * PASSADO. *n. ſ.* [Italian.] A puſh; a thruſt.—A duelliſt, a gentleman of the very firſt houſe; ah! the mortal *paſſado*. *Shak.*

(2.) PASSADO, PASS, or PASSADE, in fencing, an advance or leap forward upon the enemy. Of theſe there are ſeveral kinds; as paſſes within, above, beneath, to the right, the left, and paſſes under the line, &c. The meaſure of the paſs is when the ſwords are ſo near as that they may touch one another.

(1.) * PASSAGE. *n. ſ.* [*paſſage*, French.] 1. Act of paſſing; travel; courſe; journey.—The ſtory of ſuch a *paſſage* was true. *Raleigh.*—

So ſhalt thou beſt prepar'd endure
Thy mortal *paſſage* when it comes. *Milton.*

—All have liberty to take fiſh, which they do by ſtanding in the water by the holes, and ſo intercepting their *paſſage*, take great plenty of them. *Brown.*—Live like thoſe who look upon themſelves as being in a continual *paſſage* through this

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ſtate. *Atterbury.*—Though the *paſſage* be troubleſome, yet it is ſecure. *Wake.*—

In ſouls prepar'd, the *paſſage* is a breath
From time t' eternity, from life to death.
Harte.

2. Road; way.—That ſeemeth the beſt courſe, which hath moſt *paſſages* out of it. *Bacon.*—The land enterprize of Panama was grounded upon a falſe account, that the *paſſages* towards it were no better fortified than Drake had left them. *Bacon.*—

Is there yet no other way beſides
Theſe painful *paſſages*, how we may come
To death, and mix with our connatural duſt?
Milton.

Againſt which open'd from beneath
A *paſſage* down to th' earth, a *paſſage* wide.
Milton.

—To bleed to death was one of the moſt deſirable *paſſages* out of this world. *Fell.*—When the *paſſage* is open, land will be turned moſt to great cattle; when ſhut, to ſheep. *Temple.*—The Perſian army had advanced into the ſtraight *paſſages* of Cilicia. *South.*—

The *paſſage* made by many a winding way,
Reach'd e'en the room, in which the tyrant lay.
Dryden.

He plies him with redoubled ſtrokes;
Wheels as he wheels; and with his pointed dart
Explores the neareſt *paſſage* to his heart.
Dryden.

—The genius told me there was no *paſſage* to them, except through the gates of death. *Addiſon.*—I have often ſtopped all the *paſſages* to prevent the ants going to their own neſt. *Addiſon.*—When the gravel is ſeparated from the kidney, oily ſubſtances relax the *paſſages*. *Arbuthnot.* 3. Entrance or exit; liberty to paſs.—

What, are my doors oppos'd againſt my *paſſage*? *Shak.*

Make my *paſſage* free
For lov'd Dulichius. *Chapman.*

4. The ſtate of decay. Not in uſe.—

Would ſome part of my young years
Might but redeem the *paſſage* of your age!
Shak.

5. Intellectual admittance; mental acceptance.—I expect it will have a fairer *paſſage* than among thoſe deeply imbued with other principles. *Digby.* 6. Occurrence; hap.—

It is no act of common *paſſage*, but
A ſtrain of rareneſs. *Shak.*

7. Unſettled ſtate; aptneſs by condition or nature to change the place of abode.—Traders in Ireland are but factors; the cauſe muſt be rather an ill opinion of ſecurity than of gain: the laſt intices the poorer traders, young beginners, or thoſe of *paſſage*; but without the firſt, the rich will never ſettle in the country. *Temple.*—

A bird of *paſſage!* loſt as ſoon as found.
Pope.

8. Incident; tranſaction.—This buſineſs as it is a very high *paſſage* of ſtate, ſo it is worthy of ſerious conſideration. *Hayward.*—

Thou doeſt in thy *paſſages* of life
Make me believe that thou art only mark'd
For the hot vengeance of heav'n. *Shak.*

9. Management; conduct.—Upon conſideratio of the conduct and *paſſage* of affairs in forme times, the ſtate of England ought to be cleared an imputation caſt upon it. *Davies.* 10. Part a book; ſingle place in a writing. *Endroit*, Fr.—A critic who has no taſte nor learning, ſeldo ventures to praiſe any *paſſage* in an author, who h not been before well received by the publick. *A diſon.*—As to the cantos, all the *paſſages* are as f bulous as the viſion at the beginning. *Pope.*—

How commentators each dark *paſſage* ſhun
And hold their farthing candle to the ſun!
Yo

(2.) PASSAGE, FORT, a town and fort of J maica, between Port Royal and Spaniſh town, miles SE. of the latter, at the mouth of the Cob It has a briſk trade, and about 400 houſes.

(3.) PASSAGE, GREAT, one of the VIRG iſlands, 7 miles long, and 2 broad; 12 miles E. Porto Rico.

(4.) PASSAGE, LITTLE, another of the Virg iſlands, near the above.

(5.) PASSAGE, NORTH-EAST. See NORT EAST, § 3.

(6.) PASSAGE, NORTH-WEST. See NORT WEST, § 3.

(7.) PASSAGE, RIGHT OF, in commerce, is duty exacted by ſome princes, either by land ſea, in certain cloſe and narrow places in the territories, on all veſſels and carriages, and ev ſometimes on perſons or paſſengers, coming in going out of ports, &c. The moſt celebrat paſſage of this kind in Europe is the Sound: t dues for paſſing which ſtrait belong to the ki of Denmark, and are paid at Elſinore or Crone burg.

PASSAGES, a ſea port town of Spain, in Gu puſcoa, with a good harbour, ſheltered by mou tains, 3 miles E. of St Sebaſtian, and 60 E. of B boa. In 1719, it was taken by the French. Lo 2. 4. W. Lat. 43. 21. N.

PASSAIS, a town of France, in the departme of the Orne; 6 miles SW. of Domfront.

PASSAIX. See PASAICK.

PASSAMAN, a town of Sumatra, on the W coaſt, near the equator.

PASSAMAQUODDY, a town of the Unit States, in Maine, Waſhington county, on a b ſo named at the mouth of the Santa Croix: 3 miles from Boſton, and 726 from Philadelphia.

PASSANT, *part. adj.* in heraldry, a term a plied to a lion or other animal in a ſhield, appea ing to walk leiſurely: for moſt beaſts, except lion the *trippant* is frequently uſed inſtead of *paſſant*

PASSAO, a cape of Peru, under the equato Lon. 78. 50. W.

PASSARA, a town of Borneo, on the W. coaſt 80 miles SW. of Borneo.

PASSARAT. See PASSERAT.

(1.) PASSARO, a town of Sicily in the Valle of Noto; 13 miles SW. of Noto, and 30 S. Syracuſe.

(2.) PASSARO, a cape of Greece, in Janna, b tween the Gulfs of Armira and Zeton.

(1.) PASSARON, in ancient geography, a tow of Epirus, where, after ſacrificing to Jupiter, th kings ſwore to govern according to law, and th people to obey and defend the country.

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(2.) PASSARON, a town of European Turkey, in the Morea; 18 miles S. of Argos.

PASSAROWAN. See PASSARUAN.

PASSAROWITZ, a town of European Turkey in Servia, near the Morava: famous for being the scene of a peace made, in 1718, between Charles VI and Achmet III. It lies 33 miles ESE. of Belgrade, and 44 W. of Orsova.

(1.) PASSARUAN, or } a kingdom of the E. In-
(1.) PASSARVAN, } dies, in the isle of Java.

(2.) PASSARVAN, the capital of the above kingdom, lies on the N. coast of the isle of Java, 40 miles W. of Panarucan. Its chief trade is in cotton. Lon. 114. 15. E. Lat. 7. 0. S.

(1.) PASSAU, a ci-devant bishopric and principality of Germany, in the circle of Bavaria, lying between Lower Bavaria, Austria and Bohemia; about 20 miles long. It is now secularized, and by Bonaparte's decision of the indemnities, Aug. 11, 1802, was divided between the Archduke of Austria, and the Elector of Bavaria; that part of it which lies beyond the Iltz, being assigned to the archduke, and the remainder to the elector.

(2.) PASSAU, an ancient, handsome, and celebrated city, of Germany, capital of the above territory, is seated on the Danube, at its conflux with the Inn and the Iltz, where it has a fort. It consists of 3 towns, besides the suburb, which has an old castle. These towns are, 1. PASSAU PROPER, between the Danube and the Inn; 2. INNSTADT; and 3. *Ilzstadt* or ILSTADT. See these articles. The houses are well built, and the cathedral is reckoned the finest in Germany. Where it is not surrounded by water, it is fortified by walls, ramparts and ditches. It was under the power of the Romans till A. D. 475, when it was taken by the Alemanni; after which it fell under the dominion of the Franks, and then under the dukes of Bavaria. Otho III. made it a bishopric in 999. It is famous for the treaty, called the *religious peace*, made in 1552. It lies 82 miles ENE. of Munich, and 120 E. of Vienna. Lon. 13. 34. E. Lat. 48. 26. N.

PASSAVANT, 3 towns of France: 1. in the dep. of the Doubs, 4 miles S. of Baume, and 13½ SE. of Besançon: 2. in that of Marne, 6 miles S. of St Menehould: 3. in that of Mayne and Loire, 6 miles ESE. of Vihiers, and 15 SW. of Saumur.

PASSED. Preterite and participle of *pass*. Why sayest thou my judgment is *passed* over from my God? *Isaiah*, xl. 27.—He affirmed, that a good law *passed* since king William's accession; except the act for preserving the game. *Addison*. The description of a life, *passed* away in vanity and amongst the shadows of pomp, may be soon easily drawn in the same place. *Addison*.

PASSENBERG, a town of Maritime Austria, Istria, 9 miles NNE. of Pedena.

PASSENGER. *n, s.* [*passager*, French.] A traveller; one who is upon the road; a wayfarer.

All the way, the wanton damsel found
Her eyes with mirth, her *passenger* to entertain. *Spenser*.
They say, that make their wills their law,
Have some unhappy *passenger* in chase. *Shak*.
The nodding horror of whose shady brows
Threats the forlorn and wand'ring *passenger*. *Milt*.

—Apelles, when he had finished any work, exposed it to the sight of all *passengers*, and concealed himself to hear the censure of his faults. *Dryden*. 2. One who hires in any vehicle the liberty of travelling.—The diligent pilot in a dangerous tempest doth not attend to the unskilful words of a *passenger*. *Sidney*.

(2.) * PASSENGER. *falcon. n. s.* A kind of migratory hawk. *Ainsworth*.

PASSENHEIM, a town of Prussia, in Oberland, built in the 14th century. It has often suffered by fire, war, and pestilence. It is 70 miles S. of Konigsberg.

PASSEPIED. See MUSIC, § 252.

(1.) * PASSER. *n. s.* [from *pass*.] One who passes; one that is upon the road.—Under you ride the home and foreign shipping in so near a distance, that, without troubling the *passer*, or borrowing Stentor's voice, you may confer with any in the town. *Carew*.—

Like a matron, butcher'd by her sons,
And cast beside some common way a spectacle
Of horror and affright to *passers* by,
Our groaning country bled at every vein. *Rowe*.

(2.) PASSER, in geography, a river of Germany, which runs into the Adige, near Meran in Tirol.

PASSERAT, John, a celebrated professor of eloquence in the royal college of Paris, and one of the politest writers of his time, was born at Troyes, in Champagne, in 1534. He studied the law under the famous Cujacius at Bourges, where he became professor of eloquence in 1572. He was an indefatigable student, yet to an extraordinary erudition he joined an uncommon politeness of manners and pleasantry. He gained the esteem of Charles IX. Henry III. and all the men of wit and learning in his time. He died in 1602, and left several admired works behind him.

PASSERES, an order of birds, in the class Aves. See ORNITHOLOGY, and ZOOLOGY.

(1.) PASSERI, John Baptist, a learned antiquary and philologer, born at Gubio in Urbino, in 1694. Having entered into orders, he became apostolic protonotary and vicar general of Pesara. He published many books, particularly *Picturæ Etruscorum in Vasculis, nunc primum in unum collectæ, explicationibus et dissertationibus illustratæ. Romæ*, 1767. 3 tom fol. Being overturned in his carriage, he received a bruise of which he died in 1780.

(2.) PASSERI, John Baptist, a painter and poet of Italy, born in 1609. He was a disciple of Dominichino, but had more merit as an author than as a painter. He wrote the *Lives of the Painters, Sculptors, and Architects*, of his own time. He died at Rome, in 1679, aged 70.

(3.) PASSERI, Joseph, nephew of the preceding, under whom he studied, afterwards became the disciple of Charles Maratti. He chiefly excelled in portraits. He died in 1714, aged 60.

PASSERINA, in botany, SPARROW-WORT, a genus of the monogynia order, belonging to the octandria class of plants; and in the natural method ranking under the 31st order *Vepreculæ*.

PASSERINE ORDER. See ORNITHOLOGY.

PASSERO, CAPE, a cape of Sicily, anciently called *Pachinus*, the most southerly point of the island. It is not a peninsula, but a barren island about

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about a mile round, separated from Sicily by a ſtrait half a mile broad. It has a fort to protect the adjacent country from the Barbary pirates. In 1735, admiral Sir George Byng defeated a Spaniſh ſquadron off this cape. Lon. 15. 12. E. Lat. 36. 35. N.

PASSEROE, a river of Pruſſia, which runs into the Friſch-haff, below Braunſberg.

* PASSIBILITY. *n. ſ.* [*paſſibilité*, Fr. from *paſſible*.] Quality of receiving impreſſions from external agents.—The laſt doubt, touching the *paſſibility* of the matter of the heavens, is drawn from the eclipſes of the ſun and moon. *Hakewill.*

* PASSIBLE. *adj.* [*paſſible*, Fr. *paſſibilis*, Lat.] Suſceptive of impreſſions from external agents. —Theodoret diſputeth that God cannot be ſaid to ſuffer; but he thereby meaneth Chriſt's divine nature againſt Apollinarius, which held even deity itſelf *paſſible*. *Hooker.*

* PASSIBLENESS. *n. ſ.* [from *paſſible*.] Quality of receiving impreſſions from external agents. —It drew after it the hereſy of the *paſſibleneſs* of the deity; *Brerewood.*

PASSIENUS, Paulus, a Roman knight nephew of the poet Propertius, whoſe elegiac poetry he imitated. He alſo attempted Lyric poetry with ſucceſs, in which he followed Horace. *Plin. ep.* 6, 9.

PASSIFLORA, the PASSION-FLOWER; a genus of the pentandria order, belonging to the gynandria claſs of plants; and in the natural method ranking under the 34th order, *Cucurbitaceæ*. The calyx is pentaphyllous; there are 5 petals; the nectarium a crown; the berry is pedicillated. There are near 30 different ſpecies; all natives of warm foreign countries, only one of which is ſufficiently hardy to ſucceed well in the open ground here; all the others requiring the ſhelter of a green-houſe or ſtove, but chiefly the latter. The moſt remarkable are,

1. PASSIFLORA CÆRULEA, the blue-rayed common palmated paſſion-flower, hath long, ſlender, ſhrubby, purpliſh-green ſtalks, branchy, and aſcending upon ſupport by their claſpers 30 or 40 feet high; with one large palmated leaf at each joint, and at the axillas large ſpreading flowers, with whitiſh-green petals, and a blue radiated nectarium; ſucceeded by a large, oval, yelloviſh fruit. It flowers from July until October; the flowers are very large, conſpicuous, and their compoſition is exceedingly curious and beautiful. They come out at the axillas on pedunculi about three inches long, which they terminate, each flower having juſt cloſe under the calyx a three-lobed involucrum-like appendage; a five-lobed calyx, and a five-petalous corolla; the ſize, figure, and colour of the calyx, &c. the petals arranging alternately with the calicinal lobes; the whole, including the involucrum, calyx, and corolla, make juſt 13 lobes and petals, all expanded flat: and within the corolla is the nectarium, compoſed of a multitude of thread-like fibres, of a blue and purple colour, diſpoſed in circular rays round the column of the fructification; the outer ray is the longeſt, flat, and ſpreading on the petals; the inner is ſhort, erect, and narrows towards the centre: in the middle is an erect cylindric club-ſhaped column or pillar, crowned with the round-iſh germen, having at its baſe five horizont ſpreading filaments, crowned with incumbent y low antheræ, that move about every way; a from the ſide of the germen ariſe three ſlend ſpreading ſtyles, terminated by headed ſtigm the germen afterwards gradually becomes a la oval fleſhy fruit, ripening to a yelloviſh colour Theſe wonderful flowers are only of one day's ration, generally opening about 11 or 12 o'clo and frequently in hot ſunny weather burſt o with elaſticity, and continue fully expanded that day: and the next they gradually cloſe, ſuming a decayed-like appearance, and never o any more: the evening puts a period to their iſtence, but they are ſucceeded by new ones d on the ſame plant.—This plant and flowers held in great veneration in ſome foreign Cath countries, where the religious make the lea tendrils, and different parts of the flower, to re ſent the inſtruments of our bleſſed Saviour's ſion; hence the name *paſſiflora*.

2. PASSIFLORA INCARNATA, the *incarnate fleſh-coloured Italian paſſion-flower*, hath a ſt perennial root; ſlender, herbaceous ſtalks, upon ſupport four or five feet high; leaves poſed of three ſawed lobes, each leaf attende a twining tendril; and at the axillas long fl pedunculi, terminated each by one whitiſh fl having a greeniſh calyx, and a reddiſh or p radiated nectarium, ſurrounding the column fructification, which ſucceed to a large, r fleſhy fruit, ripening to a beautiful orange c —The flowers of this ſpecies are alſo very b ful, though of ſhort duration, opening i morning, and night puts a period to their be but they are ſucceeded by a daily ſupply o ones.—The fruit of this ſort is alſo very orn tal, as ripening to a fine reddiſh orange c but theſe rarely attain perfection here, unl plants are placed in the ſtove; therefore there is ſuch accommodation, it highly meri indulgence, where it will exhibit both flowe green and ripe fruit; all at the ſame tim beautiful manner.

3. PASSIFLORA VESPERTILIO, the *bat' paſſion-flower*, hath ſlender, ſtriated, branchy large, bilobate, or two-lobed leaves, th roundiſh and glandular, the lobes acute, divaricated like a bat's wings, and dotted neath; and axillary flowers, having white and rays. The leaves of this ſpecies have lar appearance, the two lobes being expan or ſeven inches wide, reſembling the win bat upon flight; hence the name *veſpertil* the ſpecies in this country are of a tender except the firſt, which ſucceeds very wel full ground, in a warm ſituation; only thei branches are ſometimes killed in very ſev ters; but plenty of new ones generally ri in ſpring following: the others, denominat *kinds*, muſt always be retained in that re

PASSIGNANO, or PASSIGNIANO, a town of Italy, pope's dominio province of Perugiano, on the N. coaſt of Perugia; 8 miles SE. of Cortona, and 22 Perugia. Lon. 12. 5. E. Lat. 43. 16. N.

PASSIGRAPHY. See PASIGRAPHY.

PASSINELLI, Laurence, an eminent l

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painter, born in 1629, at Bologna; in which city there are some of his capital pieces. He died in 1700, aged 71.

*PASSING. *participial adj.* [from *pass.*] 1. Supreme; surpassing others; eminent.—

No strength of arms shall win this noble fort,
Or shake this puissant wall, such *passing* might
Have spells and charms, if they be said aright.
Fairfax.

2. It is used adverbially to enforce the meaning of another word. Exceeding.—

Oberon is *passing* fell and wroth. *Shak.*
Passing many know it. *Chapman.*
Many in each region *passing* fair. *Milton.*
She was not only *passing* fair,
But was withal discreet and debonair. *Dryden.*
We learnt our liege was *passing* well. *Gay.*

*PASSINGBELL. *n. s.* [*passing* and *bell.*] The bell which rings at the hour of departure, to obtain prayers for the passing soul: it is often used for the bell, which rings immediately after death.

Pray'rs ascend
To heaven in troops at a good man's *passingbell.*
Donne.
A talk of tumult, and a breath
Would serve him as his *passingbell* to death.
Daniel.

Before the *passingbell* begun,
The news thro' half the town has run. *Swift.*

(1.) *PASSION. *n. s.* [*passion*, Fr. *passio*, Latin.] 1. Any effect caused by external agency.—A body at rest affords us no idea of any active power to move, and when set in motion, it is rather a *passion* than an action in it. *Locke.* 2. Susceptibility of effect from external action.—The differences of mouldable and not mouldable, scissible and not scissible, and many other *passions* of matter are plebeian notions. *Bacon.* 3. Violent commotion of the mind.—

All the other *passions* fleet to air. *Shak.*
Every *passion* fully strives
To make itself in thee fair and admired. *Shak.*
I am doubtful, lest
You break into some merry *passion.* *Shak.*
In loving thou do'st well, in *passion* not;
Wherein true love consists not. *Milton.*
Cruel his eye, but cast
Signs of remorse and *passion*, to behold
The fellows of his crime condemn'd. *Milton.*
Passion's too fierce to be in fetters bound. *Dryd.*
All the art of rhetorick, besides order and perspicuity, only moves the *passions*, and thereby mislead the judgment. *Locke.* 4. Anger.—The word *passion* signifies the receiving any action in a large philosophical sense; in a more limited philosophical sense, it signifies any of the affections of human nature; as love, fear, joy, sorrow: but the common people confine it only to anger. *Watts.*
5. Zeal; ardour.—Where statesmen are ruled by faction and interest, they can have no *passion* for the glory of their country. *Addison.* 6. Love.—

You kill'd her father: you confess'd you drew
A mighty argument to prove your *passion* for the daughter. *Dryden and Lee's Oedipus.*
He, to grate me more,
Publickly own'd his *passion* for Amestris. *Rowe.*
Think what a *passion* such a form must have.
Granville.

7. Eagerness.—Abate a little of that violent *passion* for fine cloaths, so predominant in your sex. *Swift.* 8. Emphatically, the last suffering of the Redeemer of the world.—He shewed himself alive after his *passion*, by many infallible proofs. *Acts*, i. 3.

(2.) PASSION is a word, of which, as Dr Reid observes, the meaning is not precisely ascertained, either in common discourse or in the writings of philosophers. In its original import, it denotes every *feeling* of the mind occasioned by an extrinsic cause; but it is generally used to signify some *agitation* of mind, opposed to that state of tranquillity in which a man is most master of himself. That it was thus used by the Greeks and Romans, is evident from Cicero's rendering παθος, the word by which the philosophers of Greece expressed it, by *perturbatio* in Latin. In this sense of the word, passion cannot be itself a *distinct* and *independent* principle of action; but only an occasional degree of vehemence given to those dispositions, desires, and affections, which are at all times present to the mind of man; and that this is its proper sense, we need no other proof, than that passion has always been conceived to bear analogy to a storm at sea, or to a tempest in the air. With respect to the number of passions of which the mind is susceptible, different opinions have been held by different authors. Le Brun, a French writer on painting, justly considering the expression of the passions as a very important as well as difficult branch of his art, has enumerated no fewer than twenty, of which the signs may be expressed by the pencil on canvass. (See DRAWING, *Sect.* XI; *Plates* CXIX, and CXX.) That there are so many different states of mind producing different effects which are visible on the features and the gestures, and that those features and gestures ought to be diligently studied by the artist, are truths which cannot be denied; but it is absurd to consider all these different states of mind as *passions*, since *tranquillity* is one of them, which is the reverse of passion.

(3.) PASSIONS AND EMOTIONS, DIFFERENCE BETWEEN. See EMOTION, § 2.

(4.) PASSIONS, CONTROVERSY RESPECTING THE ORIGIN OF THE. A question of considerable importance in the philosophy of the human mind, has been discussed at no small length, by several eminent authors, whether the different passions be each a degree of an original and innate disposition, distinct from those dispositions which are respectively the foundations of the other passions, or only different modifications of one or two general dispositions common to the whole race? The former opinion is held by all who build their system of metaphysics upon a number of distinct internal senses; and the latter by those, who, with Locke and Hartley, resolve what is commonly called *instinct* into an early association of ideas. (See INSTINCT and METAPHYSICS.) This question also involves in it the arguments respecting the disinterestedness of our most benevolent passions. But as it would swell this article beyond all due bounds to give even an abridged view of the arguments on both sides, we shall refer the reader to the writings of Messrs Locke and Hartley, Lord Kames, Reid's Inquiry into the Human Mind, and Dr Sayer's Disquisitions Metaphysical

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and Literary, where they will find the question amply discussed.

(5.) PASSIONS, EXTERNAL SIGNS OF. See PHYSIOGNOMY.

(6.) PASSIONS, in medicine, are ranked among the non-naturals. Joy, anger, and fear, are the principal; but all of them when violent, produce very sensible effects on the health. There are more instances on record of people being killed by sudden joy than by sudden grief.

(7.) PASSIONS, in painting, are the external expressions of the different dispositions of the mind; particularly by their effects on the features. See DRAWING, *Sect.* X. & XI; and *Plates* 119 & 120: and PAINTING, *Sect.* VIII.

* *To* PASSION. *v. n.* [*passioner*, Fr. from the noun.] To be extremely agitated; to express great commotion of mind. Obsolete.—

'Twas Ariadne *passioning*
For Theseus' perjury and unjust flight. *Shak.*

* PASSIONATE. *adj.* [*passionné*, Fr.] 1. Moved by passion; feeling or expressing great commotion of mind.—Follow the light of sound and fine judgment, without either cloud of prejudice or mist of *passionate* affection. *Hooker.*—Thucydides observes, that men are much more *passionate* for injustice than for violence. *Clarend.*—In his prayers, as his attention was fixt and steady, so was it inflamed with *passionate* fervors. *Fell.*—Good angels looked upon this ship of Noah's with a *passionate* concern for its safety. *Burnet.*—Men, upon the near approach of death, have been rouzed up into such a lively sense of their guilt, such a *passionate* degree of concern and remorse, that, if ten thousand ghosts had appeared to them, they scarce could have had a fuller conviction of their danger. *Atterbury.* 2. Easily moved to anger.—Homer's Achilles is haughty and *passionate*, impatient of any restraint. *Prior.*

* *To* PASSIONATE. *v. a.* [from *passion.*] An old word. Obsolete. 1. To affect with passion.—

Great pleasure mix'd with pitiful regard,
That godly king and queen did *passionate*,
Whilst they his pitiful adventures heard. *Spens.*

2. To express passionately.—

Thy niece and I want hands,
And cannot *passionate* our tenfold grief. *Shak.*

* PASSIONATELY. *adv.* [from *passionate.*] 1. With passion; with desire, love or hatred; with great commotion of mind.—Whoever *passionately* covets any thing he has not, has lost his hold. *L'Estrange.*—If sorrow expresses itself never so loudly and *passionately*, and discharges itself in never so many tears, yet it will no more purge a man's heart, than the washing of his hands can cleanse the rottenness of his bones. *South.*—I made Melesinda, in opposition to Nourmahal, a woman *passionately* loving of her husband. *Dryden.* 2. Angrily.—They lay the blame on the poor little ones, sometimes *passionately* enough, to divert it from themselves. *Locke.*

* PASSIONATENESS. *n. s.* [from *passionate.*] 1. State of being subject to passion. 2. Vehemence of mind.—To love with some *passionateness* the person you would marry, is not only allowable but expedient. *Boyle.*

PASSIONEI, Dominic, a learned Roman cardinal, born of an illustrious family, at Fossombrone in Urbino, in 1682. He was educated at the Clementine college in Rome, where he formed a rich library with a collection of rare MSS. He went to Paris in 1706, where he was much respected by the literati, particularly by Montfaucon. He was employed in various negociations. He was at the congress at Utrecht in 1712; at Basil in 1714; and at Soleure in 1715: of which he published an account, entitled *Acta Legationis Helveticæ.* He was made Abp. of Ephesus, by Innocent III, and pronounced the funeral oration on Prince Eugene. He died in 1761; and was a great patron of men of letters.

(1.) * PASSION-FLOWER. *n. s.* [*grandilla*, La. A flower. *Miller.*

(2.) PASSION-FLOWER. See PASSIFLORA.

(1.) * PASSION-WEEK. *n. s.* The week immediately preceding Easter, named in commemoration of our Saviour's crucifixion.

(2.) PASSION-WEEK. The Thursday of this week is called *Maundy Thursday*; the Friday *Good Friday*; and the Saturday, the *Great Sabbath.*

(1.) * PASSIVE. *adj.* [*passif*, Fr. *passivus*, L. 1. Receiving impression from some external agent.

High above the ground
Their march was, and the *passive* air upbore
Their nimble tread. *Milton.*

—The active informations of the intellect, fill the *passive* reception of the will, grew actuate into a third and distinct perfection of practice. *South.*—As the mind is wholly *passive* in the reception of all its simple ideas, so it exerts several acts of its own, whereby, out of its simple ideas, the other is formed. *Locke.*—The *vis inertiæ* is a *passive* principle by which bodies persist in their motion or rest, receive motion in proportion to the force impressing it, and resist as much as they are resisted. *Newton's Opticks.* 2. Unresisting; not opposing.—

Not those alone, who *passive* own her laws
But who, weak rebels, more advance her cause.

3. Suffering; not acting. 4. [In grammar.] A *passive* is that which signifies passion or the effect of action: as *doceor*, I am taught. *Clarke's Latin.*

(2.) PASSIVE OBEDIENCE, the duty enjoined in the scriptures of submission to *the powers that.* The absurdity which commonly attaches to the phrase *passive obedience* originates from the mistaken loyalty of the adherents of the house of Stuart, who, to aggravate the illegality of the revolution, were wont to represent James II. as supreme over both houses of parliament, and of course over the law. We shall only observe, that there is a great difference between *active* and *passive* obedience, and that many who consider themselves as bound on *no account* whatever to *resist* the supreme power, would yet *suffer death* rather than do an immoral action in obedience to any law of earthly origin.

(3.) PASSIVE PRAYER, among the *mystic divines*, is a total suspension or ligature of the intellectual faculties; in virtue whereof, the soul remains wholly itself, and as to its own power, impotent with regard to the producing of any effects. The passive state, according to Fenelon, is only passive in the same sense as contemplation is, *i. e.* it does not exclude peaceable, disinterested acts, but only the quiet ones, or such as tend to our own interest.

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in the passive state, the soul has not properly any activity, any sensation, of its own: it is a mere innate flexibility of the soul, to which the feeblest impulse of grace gives motion.

(4.) PASSIVE TITLE, in Scots law. See LAW, *Part* III, *Chap.* II, *Sect.* XX, § 21-36.

(5.) PASSIVE VERB, in grammar, the verb or word that expresses suffering, or the effect of action, which, in the learned languages, has a peculiar termination; as *amor*, *doceor*, &c. in Latin; that is an *r* is added to the actives *amo*, *doceo*: and, in the Greek, the inflection is made by changing ω into ομαι; as τυπτω τυπτομαι, &c. But, in the modern languages, the passive inflection is performed by auxiliary verbs, joined to the participle of the past tense; as, *I am praised*, in Latin *laudor*, and in Greek τυπτομαι; or, *I am loved*, in Latin *amor*, and in Greek φιλουμαι. Thus it appears, that the auxiliary verb *am*, serves to form the passives of English verbs: and the same holds of the French; as, *Je suis loué*, *I am praised*; *j'ai eté loué*, *I have been praised*, &c. See GRAMMAR, under ENGLISH LANGUAGE, p. 665.

* PASSIVELY. *adv.* [from *passive*.] 1. With a passive nature.—

Tho' some are *passively* inclin'd,
The greater part degenerate from their kind.
Dryden.

2. Without agency.—A man may not only *passively* and involuntarily be rejected, but also may, by an act of his own, cast out or reject himself. *Pearson.*

* PASSIVENESS. *n. s.* [from *passive*.] 1. Quality of receiving impression from external agents. 2. Possibility; power of suffering.—We shall lose our *passiveness* with our being, and be as incapable of suffering as heaven can make us. *Decay of Piety.* 3. Patience; calmness.—Gravity and *passiveness* in children is not from discretion, but phlegme. *Fell.*

* PASSIVITY. *n. s.* [from *passive*.] Passiveness. An innovated word.—There being no mean between penetrability and impenetrability, between passivity and activity, these being contrary and opposite, the infinite rarefaction of the one quality in the position of its contrary. *Cheyne's Phil. Prin.*

(1.) PASSO, or } a town of Maritime Austria,
PASSO DI HAN, } in Dalmatia, in the territory of Sign, seated on the Cettina, on the site of the ancient town of *Æquum*.

(2.) PASSO DI MOIA, a town of Naples, in the prov. of Capitanata; 17 miles WSW. of Viesta.

PASSOLA, and } two species of dried grapes.
PASSOLINA, } See LIPARI, N° 2.

(1.) * PASSOVER. *n. s.* [*pass* and *over*.] 1. A feast instituted among the Jews in memory of the time when God, smiting the first born of the Egyptians, *passed over* the habitations of the Hebrews.—The Jews *passover* was at hand, and Jesus went up. *John* ii. 13.—The Lord's *passover*, commonly called Easter, was ordered by the ceremonial law to be celebrated every year on a Sunday. *Ayliffe.* 2. The sacrifice killed.—Take a lamb and kill the *passover*. *Exodus.* xii. 21.

(2.) The PASSOVER was called *pascha* by the old Greeks and Romans; not we presume from πασχω, *I suffer*, as Chrysostom, Irenæus, and Tertullian suppose, but from the Hebrew word פסח, *passage*, *leap*. The institution of this solemn festival, the reason of it, the alteration of the Hebrew Calender, and its other consequences, with all the peculiar ceremonies observed in the celebration of it, are particularly related in the xiith. chap. of Exodus. With regard to the bread, see BREAD, § 13. The obligation of keeping the passover was so strict, that whoever neglected to do it, was condemned to death, (Numb. ix. 13.) But those who had any lawful impediment, as a journey, sickness, or any uncleanness, voluntary or involuntary; those that had been present at a funeral, or by any other accident had been defiled, were to defer the celebration of the passover till the 2d month of the ecclesiastical year, or to the 14th day of the month Jiar, which answers to April and May. (See 2 Chr. xxx. 1, 2, &c.) The modern Jews observe in general the same ceremonies that were practised by their ancestors, in the celebration of the passover. On the 14th of Nisan, the first-born fast in memory of God's smiting the first-born of the Egyptians. The morning prayers are the same with those said on other festivals. They take the roll of the pentateuch out of the chest, and read as far as the end of the 12th chapter of Exodus, and what is contained in the 18th chapter of Numbers, relating to the passover. The matron of the family then spreads a table, and sets on it two unleavened cakes, and two pieces of the lamb, a shoulder boiled and another roasted. To this they add some small fishes, because of the leviathan; a hard egg, because of the ziz: some meal, because of the behemoth, (these three animals being appointed for the feast of the elect in the other life); and peas and nuts for the children, to provoke their curiosity to ask the reason of this ceremony. They likewise used a kind of mustard, which has the appearance of mortar, to represent thir making bricks in Egypt. The father of the family sits down with his children and slaves, because on this day all are free. He takes bitter herbs, and dips them in the mustard, then eats them, and distributes to the rest. Then they eat of the lamb, the institution of which is at that time recited by the master of the family. The whole repast is attended with hymns and prayers. They pray for the prince under whose dominion they live, according to Jeremiah's advice. (xxix. 7.) See FEAST, § III, N° iv. The same things are repeated the two following days; and the festival is concluded by the ceremony *habdala*. (See HABDALA.) This ceremony is performed at the closing of the Sabbath-day, when the master of the house pronounces certain benedictions, accompanied with certain formalities, requesting that every thing may succeed well the week following. After going out of the synagogue, they then eat leavened bread for the last time. (Leo of Modena, p. iii. c. 3. and the Rabbins.) While the temple was standing, they brought their lambs thither, and sacrificed them, offering the blood to the priest, who poured it out at the foot of the altar. The passover was typically predictive of Christ (1 Cor. v. 7.) Many erroneously imagine, that the passover was instituted in memory of the Israelites passing the Red Sea; though it is certain the feast was held, and had its name, before the Israelites took a step of their way out of Egypt, and consequently several days before their passing

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the Red Sea. Beſides the paſſover celebrated on the 14th of the firſt month, there was a ſecond paſſover held on the 15th of the 2d month after the equinox, inſtituted by God in favour of travellers and ſick perſons, who could not attend at the firſt, nor be at Jeruſalem on the day. The Greeks, and even ſome of the catholic doctors, from the 13th, 18th, and 19th chapters, of St John, conclude, that Jeſus anticipated the day marked for the paſſover in the law; but the authority of three evangeliſts ſeems to evince the countrary. See Whitby's Diſſertation on this ſubject, in an appendix to the fourteenth chapter of St Mark. F. Lamy ſuppoſes, that our Lord did not attend at the paſſover the laſt year of his life; which ſentiment has drawn upon him abundance of oppoſers. F. Hardouin aſſerts, that the Galileans celebrated the paſſover on one day, and the Jews on another.

(1.) * PASSPORT. *n. ſ.* [*paſſport*, Fr.] Permiſſion of paſſage.—Fain ſhe would have given a ſecret *paſſport* to her affection. *Sidney.*—

Giving his reaſon *paſſport* for to paſs
Whither it would. *Sidney.*

Let him depart; his *paſſport* ſhall be made. *Shak.*

—Having uſed extreme caution in granting *paſſports* to Ireland, he conceived that paper not to have been delivered. *Clar.*—The goſpel has then only a free admiſſion into the aſſent of the underſtanding, when it brings a *paſſport* from a rightly diſpoſed will. *South.*—

He ſhows the *paſſport* which he brought along;
His *paſſport* is his innocence and grace. *Dryden.*
At our meeting in another world;
For though haſt drunk thy *paſſport* out of this. *Dryden.*
Fortune, for a *paſſport* gave him wealth. *Harte.*

(2.) *A* PASSPORT, or PASS, is a licence or writing obtained from a government granting permiſſion and a ſafe conduct to paſs through the country without moleſtation: Alſo a permiſſion granted by any ſtate to navigate in ſome particular ſea, without moleſtation. It contains the name of the veſſel, and that of the maſter, together with her tonnage and the number of her crew, certifying that ſhe belongs to the ſubjects of a particular ſtate, and requiring all perſons at peace with that ſtate to ſuffer her to proceed on her voyage without interruption. The violation of paſſports expreſsly granted by the king, or by his ambaſſadors, to the ſubjects of a foreign power in time of mutual war, or committing acts of hoſtility againſt ſuch as are in amity, league, or truce with us, who are here under a general implied ſafe conduct, are breaches of the public faith, without which there can be no intercourſe or commerce between one nation and another; and ſuch offences may, according to the writers upon the law of nations, be a proper ground of a national war. And it is enacted by ſtat. 31 Hen. VI. c. 4. ſtill in force, that if any of the king's ſubjects attempt or offend upon the ſea, or in any port within the king's obeyſance, or againſt any ſtranger in amity, league, or truce, or under ſafe-conduct, and eſpecially by attacking his perſon, or ſpoiling him, or robbing him of his goods; the lord-chancellor, with any of the Juſtices of either the king's bench or common pleas, may cauſe full reſtitution and amends to be made to the party injured. Paſquier ſays, that *paſſport* was introduced for *paſſe par tout*. Balzac mentions a very honorable paſſport given by an emperor to a philoſopher in theſe terms: "If there be any one by land or ſea hardy enough to moleſt Potamon, let him conſider whether he be ſtrong enough to wage war with Cæſar."

(3.) PASSPORT is uſed likewiſe for a licence granted by a prince for the importing or exporting merchandizes, moveables, &c. without paying the duties. Merchants procure ſuch paſſports for certain kinds of commodities; and they are always given to ambaſſadors and miniſters for their baggage, equipage, &c.

(4.) PASSPORT is alſo a licence obtained for importing or exporting of merchandizes deemed contraband, and declared ſuch by tariffs, &c. gold, ſilver, precious ſtones, ammunition of war, horſes, corn, wool, &c. upon paying duties.

PASSUMPSICK, a river of Vermont, which riſes in Orange County, runs 34 miles S. and then turns SE. and falls into the Connecticut.

PASSUS, among the ancient Romans, a meaſure of length, being about four feet ten inches or the 1000th part of a Roman mile. The word properly ſignifies, the ſpace betwixt the feet of a man walking at an ordinary rate. See MEASURE, N° VII, § 5, iv.

PASSY, a town of France, in the department of Paris, and diſtrict of St Denis, near Paris.

PASSYUNK, a townſhip of Pennſylvania in Philadelphia county.

(1.) * PAST. *participial adj.* [from *paſs.*] Not preſent; not to come.—

Paſt, and to come, ſeem beſt; things preſent worſt. *S*

—For ſeveral months *paſt*, papers have been written upon the beſt publick principle, the love of our country. *Swift.*—

This not alone has ſhone on ages *paſt*,
But lights the preſent, and ſhall warm the

2. Spent; gone through; undergone.—

A life of glorious labours *paſt*.

(2.) * PAST. *n. ſ.* Elliptically uſed for time.—

The *paſt* is all by death poſſeſt. *Fe*

(3.) * PAST. *preposition.* 1. Beyond in time. Sarah was delivered of a child, when ſhe was age. *Heb.* xi. 11. 2. No longer capable of.—vent prayers he made, when he was eſteemed ſenſe. *Hayward.*—

Paſt hope of conqueſt, 'twas his lateſt c
Like falling Cæſar decently to die. *D*

—Many men have not yet ſinned themſelves all ſenſe or feeling, but have ſome regrets. *Ca*

3. Beyond; out of reach of.—

We muſt not
Proſtitute our *paſt* cure malady.
What's gone, and what's *paſt* help
Should be *paſt* grief.

—That France and Spain were taught the u ſhipping by the Greeks and Phœnicians is a *paſt* queſtioning. *Heylyn.*—Love, when once government, is conſequently *paſt* ſhame. *L'E*

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Her life ſhe might have had; but the deſpair
Of having his, had put it *paſt* her care. *Dryden.*
I'm ſtupify'd with ſorrow, *paſt* relief. *Dryden.*—That the bare receiving a ſum ſhould ſink a man into a ſervile ſtate, is *paſt* my comprehenſion. *Locke.*—That he means paternal power, is *paſt* a doubt. *Locke.* 4. Beyond; further than.—We will go by the king's high way, until we be *paſt* thy borders. *Numbers*, xxi. 22. 5. Above; more than.—The northern Iriſh Scots have bows not *paſt* three quarters of a yard long. *Spenſer.*—The ſame inundation was not deep, not *paſt* forty foot from the ground. *Bacon.*

PASTARO, a town of the Italian republic, in the dept. of the Lario, diſtrict and late duchy of Como, ſeated on the E. bank of Lake Como, W. of Introbio.

(1.) * PASTE. *n. ſ.* [*paſte*, French.] 1. Any thing mixed up ſo as to be viſcous and tenacious: ſuch as flour and water for bread or pies; or various kinds of earth mingled for the potter.—Except you could bray Chriſtendom in a mortar, and mould it into a new *paſte*, there is no poſſibility of an holy war. *Bacon.*—

With particles of heavenly fire
The God of nature did his ſoul inſpire;
Which wiſe Prometheus temper'd into *paſte*,
And, mixt with living ſtreams, the godlike image caſt. *Dryden.*

When the gods moulded up the *paſte* of man,
Some of the dough was left upon their hands. *Dry.*—He has the whiteſt hand that ever you ſaw, and rules *paſte* better than any woman. *Spectator.* 2. Flour and water boiled together ſo as to make a cement. 3. Artificial mixture, in imitation of precious ſtones.

(2.) PASTE, in cookery, a ſoft compoſition of flour, wrought up with proper fluids, as water, milk, or the like, to ſerve for caſes or coffins, therein to bake meats, fruits, &c. It is the baſis or foundation of pyes, tarts, patties, paſties, and other works of paſtry. It is alſo uſed in confectionary, &c. for a preparation of ſome fruit, made by beating the pulp thereof with ſome fluid or other admixture, into a ſoft pappy conſiſtence, ſpreading it into a diſh, and drying it with ſugar, till it becomes as pliable as an ordinary paſte. It is uſed occaſionally alſo for making the cruſts and bottoms of pyes, &c. Thus, with proper admixtures, are made almond paſtes, apple paſtes, apricot paſtes, cherry, currant, lemon, plum, peach, and pear paſtes.

(3.) PASTE is likewiſe uſed for a preparation of wheten flour, boiled up and incorporated with water; uſed by various artificers, as upholſterers, ſtainers, bookbinders, &c. inſtead of glue or ſize, to faſten or cement their cloth, leathers, papers, &c. When paſte is uſed by bookbinders, or for paper hangings to rooms, they mix a 4th, 5th, or 6th of the weight of the flour of powdered reſin; and where it is wanted ſtill more tenacious, gum arabic or any kind of ſize may be added. Paſte may be preſerved, by diſſolving a little ſublimate, in the proportion of a dram to a quart, in the water employed for making it, which will prevent not only rats and mice, but any other kind of vermin and inſects from preying upon it.

(4.) PASTES, in the glaſs trade, or the imitation or counterfeiting of GEMS in glaſs, is an art of conſiderable importance. GEMS made of paſtes, are noway inferior to the native ſtones, when carefully made and well poliſhed, in brightneſs or tranſparence, but want their hardneſs.

(5.) PASTES, GENERAL RULES FOR MAKING. Theſe are, 1. That all the veſſels in which they are made be firmly luted, and the lute left to dry before they are put into the fire. 2. That ſuch veſſels be choſen for the work as will bear the fire well. 3. That the powder be prepared on a porphyry ſtone; not in a metal mortar, which would communicate a tinge to them. 4. That the juſt proportion in the quantity of the ſeveral ingredients be nicely obſerved. 5. That the materials be all well mixed; and, if not ſufficiently baked the firſt time, be committed to the fire again, without breaking the pot; for if this be not obſerved, they will be full of bliſters and air bladders. 6. That a ſmall vacuity be always left at the top of the pot, to give room to the ſwelling of the ingredients. To make paſte of extreme hardneſs, and capable of all the colours of the gems, with great luſtre and beauty.—Take of prepared cryſtal, 10 lb. ſalt of polverine, 6 lb. ſulphur of lead, 2 lb. mix all theſe well into a fine powder: make the whole with common water into a hard paſte; and make this paſte into ſmall cakes of about 3 oz. each, with a hole in their middle; dry them in the ſun, and afterwards calcine them in the ſtraiteſt part of a potter's furnace. After this, powder them, and levigate them to a perfect fineneſs on a porphyry ſtone, and ſet this powder in pots in a glaſs furnace to purify for 3 days: then caſt the whole into water, and afterwards return it into the furnace, where let it ſtand 15 days, in which time all foulneſs and bliſters will diſappear, and the paſte will greatly reſemble the natural jewels. To give this the colour of the emerald, add to it braſs thrice calcined; for a ſea-green, braſs ſimply calcined to a redneſs; for a ſapphire, add zaffer, with manganeſe; and for a topaz, manganeſe and tartar. All the gems are thus imitated in this, by the ſame way of working as the making of coloured glaſſes; and this is ſo hard, that they very much approach the natural gems. The colour of all the counterfeit gems made of the ſeveral paſtes, may be made deeper or lighter according to the work for which the ſtones are deſigned; and it is a neceſſary general rule, that ſmall ſtones for rings, &c. require a deeper colour, and large ones a paler. Beſides the colours made from manganeſe, verdigris, and zaffer, which are the ingredients commonly uſed, there are other very fine ones which care and ſkill may prepare. A very fine red may be made from gold, and one not much inferior to that from iron; a very fine green from braſs or copper; a ſky-colour from ſilver, and a much finer one from the granates of Bohemia. An excellent way of making the paſte to imitate the coloured gems is this: Take a quantity of ſugar of lead; ſet it in ſand, in a glaſs body well luted from the neck downwards; leave the mouth of the glaſs open, and continue the fire 24 hours; then take out the ſalt, and if it be not red but yellowiſh, powder it fine, and return it into the veſſel, and keep it in the ſand-heat 24 hours more, till

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till it becomes as red as cinnabar. The fire muſt not be made ſo ſtrong as to melt it, for then all the proceſs is ſpoiled. Pour diſtilled vinegar on this calcined ſalt, and ſeparate the ſolution from the dregs; let the decanted liquor ſtand ſix days in an earthen veſſel, to give time for the finer ſediment to ſubſide; filter this liquor, and evaporate it in a glaſs body, and there will remain a moſt pure ſalt of lead; dry this well, then diſſolve it in fair water; let the ſolution ſtand ſix days in a glazed pan; let it ſubſide, then filter the clear ſolution, and evaporate it to a yet more pure white and ſweet ſalt; repeat this operation three times; put the now perfectly pure ſalt into a glaſs veſſel, ſet it in a ſand heat for ſeveral days, and it will be calcined to a fine impalpable powder of a lively red. Take all the ingredients as in the common compoſition of the paſtes of the ſeveral colours, only inſtead of red lead, uſe this powder; and the produce will well reward the trouble of the operation. A paſte proper for receiving colours may be readily made by pounding and mixing 6 lb. of white ſand cleanſed, 3 lb. of red lead, 2 lb. of purified pearl-aſhes, and 1 lb. of nitre. A ſofter paſte may be made in the ſame manner, of 6 lb. of white ſand cleanſed; red lead, and purified pearl-aſhes, of each 3 lb.; 1 lb. of nitre, half a pound of borax, and 3 oz. of arſenic. For common uſe a pound of common ſalt may be ſubſtituted for the borax. This glaſs will be very ſoft, and will not bear much wear if employed for rings, buckles, or ſuch imitations of ſtones as are expoſed to much rubbing; but for ear-rings, ornaments worn on the breaſt, and thoſe little uſed, it may laſt a conſiderable time.

(6.) PASTES, METHOD OF COLOURING. To give paſtes different colours, the proceſs is as follows: For *Amethyſt*. Take 10 lb. of either of the compoſitions deſcribed under GLASS-MAKING, *Sect.* XIV. one ounce and a half of manganeſe, and one dram of zaffer; powder and fuſe them together. *Black*. Take 10 lb. of either of the compoſitions juſt referred to, one ounce of zaffer, ſix drams of manganeſe, and five dr. of iron, highly calcined; and proceed as before. *Blue*. Take of the ſame compoſition 10 lb. of zaffer 6 dr. and of manganeſe 2 dr. and proceed as with the foregoing. *Chryſolite*. Take of either of the compoſitions for paſte above deſcribed, prepared without ſaltpetre, 10 lb. and of calcined iron 5 drams; and purſue the ſame proceſs as with the reſt. *Red Cornelian*. Take of the compoſitions mentioned under GLASS-MAKING, *Sect.* XIV, 2 lb. of glaſs of antimony 1 lb. of the calcined vitriol called *ſcarlet ochre* 2 lb. and of manganeſe one dram. Fuſe the glaſs of antimony and manganeſe with the compoſition; then powder them, and mix them with the other, by grinding them together, and fuſe them with a gentle heat. *White Cornelian*. Take of the compoſition juſt referred to 2 lb. of yellow ochre well waſhed two drams; and of calcined bones 1 oz. Mix them, and fuſe them with a gentle heat. *Diamond*. Take of the white ſand 6 lb. of red lead 4 lb. of pearl aſhes purified 3 lb. of nitre 2 lb. of arſenic 5 oz. and of manganeſe one ſcruple. Powder and fuſe them. *Eagle marine*. Take ten pounds of the compoſition under GLASS-MAKING; 3 oz. of copper highly calcined with ſulphur; and one ſcruple of zaffi Proceed as before. *Emerald*. Take of the ſar compoſition with the laſt 9 lb.; 3 oz. of copp precipitated from aquafortis; and two drams precipitated iron. See GLASS-MAKING, *S* XIV, § 13. *Garnet*. Take 2 lb. of the compo tion under GLASS-MAKING; 2 lb. of the glaſs antimony, and 2 drams of manganeſe. For vi gar garnet, take of the compoſition for paſte, bove deſcribed in § 5, two pounds; one pou of glaſs of antimony, and half an ounce iron, highly calcined; mix the iron with the coloured paſte, and fuſe them; then add glaſs of antimony powdered, and continue th in the heat till the whole is incorporated. G or *full yellow*. Take of the compoſition for pa 10 pounds; and 1½ oz. of iron ſtrongly calcin proceeding as with the others. See alſo GLA MAKING, *Sect.* XIV, § 12. *Deep purple*. Take either of the compoſitions for paſte 10 lb. of m ganeſe one ounce; and of zaffer half an ou *Ruby*. Take 1 lb. of either of the compoſitions paſte, and two drams of precipitation of gold tin; powder the paſte, and grind the calx of g with it in a glaſs, flint, or agate mortar, and t fuſe them together. A cheaper ruby paſte be made with half a pound of either of the ab compoſitions, half a pound of glaſs of antimo and one dram and a half of the calx of gold; ceeding as before. See GLASS-MAKING, XIV, § 18. *Sapphire*. Take of the compoſi for paſte 10 lb. of zaffer 3 drams and 1 ſcru and of the *calx Caſſii* one dram. Powder and them. Or the ſame may be done, by mi with the paſte ¼ of its weight of ſmalt. *To* Take of the compoſitions under GLASS-MAKI (*Sect.* XIV, § 20.) 10 lb. omitting the ſaltpe and an equal quantity of the *Gold-coloured* GLASS. Powder and fuſe them. *Turquoiſe*. T of the compoſition for blue paſte already de bed, 10 lb. of calcined bone, horn, or ivory, a pound. Powder and fuſe them. *Opake wh* Take of the compoſition for paſte 10 lb. and of calcined horn, ivory, or bone; and proceed before. *Semitranſparent white, like opal.* GLASS-MAKING, *Sect.* XIV. § 15.

(7.) PASTES, METHOD OF MAKING, IN FORM OF DOUBLETS. Let the cryſtal or glaſ firſt cut by the lapidaries in the manner of a liant, except that, in this caſe, the figure mu compoſed from two ſeparate ſtones, or part ſtones, formed in the manner of the upper under parts of a brilliant, if it was divided i horizontal direction, a little lower than the dle. After the two plates of the intended are thus cut, and fitted ſo exactly that no div can appear when they are laid together, the per part muſt be poliſhed ready for ſetting; and then the colour muſt be put betwixt the plates by this method. Take of Venice or prus turpentine two ſcruples; and add to it ſcruple of the grains of maſtich choſen perf pure, free from foulneſs, and previouſly pow ed. Melt them together in a ſmall ſilver or ſpoon ladle, or other veſſel, and put to them dually any of the coloured ſubſtances below tioned, being firſt well powdered; ſtirring t together as the colour is put in, that they

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be thoroughly commixed. Warm then the doublets to the ſame degree of heat as the melted mixture; and paint the upper ſurface of the lower doublet, and put the upper one inſtantly upon it, preſſing them to each other, but taking care that they may be conjoined in the moſt perfectly even manner. When the cement or paint is quite cold and ſet, the redundant part of it, which has been preſſed out of the joint of the two pieces, ſhould be gently ſcraped off the ſide, till there be no appearance of any colour on the outſide of the doublets: and they ſhould then be ſkilfully ſet; obſerving to carry the mounting over the joint, that the upper piece may be well ſecured from ſeparating from the under one. The colour of the RUBY may be beſt imitated, by mixing a fourth part of carmine with ſome of the fineſt crimſon lake that can be procured. The SAPPHIRE may be counterfeited by very bright Pruſſian blue, mixed with a little of the above mentioned crimſon lake, to give it a caſt of the purple. The Pruſſian blue ſhould not be very deep-coloured, or but little of it ſhould be uſed: for otherwiſe, it will give a black ſhade that will be injurious to the luſtre of the doublets. The EMERALD may be counterfeited by diſtilled verdigreaſe, with a little powdered aloes. But the mixture ſhould not be ſtrongly heated, nor kept long over the fire after the verdigreaſe is added: for the colour will be ſoon impaired by it. The reſemblance of the GARNET may be made by dragon's blood; which, if it cannot be procured of ſufficient goodneſs, may be helped by a very ſmall quantity of carmine. The AMETHYST may be imitated by the mixture of ſome Pruſſian blue with the crimſon lake; but the proportions can only be well regulated by direction, as different parcels of the lake and Pruſſian blue vary extremely in the degree of ſtrength of the colour. The yellow TOPAZES may be counterfeited by mixing the powdered aloes with a little dragon's blood, or by Spaniſh anotto: but the colour muſt be very ſparingly uſed, or the tinge will be too ſtrong for the appearance of that ſtone. The CHRYSOLITE, hyacinth, vinegar garnet, eagle marine, and other ſuch weaker or more diluted colours, muſt be formed in the ſame manner, by leſſening the proportions of the colours, or by compounding them together correſpondently to the hue of the ſtone to be imitated; to which end it is proper to have an original ſtone, or an exact imitation of it at hand when the mixture is made, in order to be more certain adapting the colours to the deſired: and when theſe precautions are taken, and the operation well conducted, it is practicable to bring the doublets to ſo near a reſemblance of the true ſtones, that even the beſt judges cannot diſtinguiſh them, when well ſet, without a particular manner of inſpection; viz. by holding them betwixt the eye and light, in ſuch a manner that the light may paſs through the upper and corners of the ſtone; when it will eaſily be perceived that there is no colour in the body of the ſtone.

PASTES, M. FONTANIEU'S METHOD OF MAKING THE BASES OF. M. Fontanieu of the Royal Academy of Sciences at Paris, propoſed the following ſucceſſes, which were approved. Although the different calces of lead are all adapted to produce the ſame effect in vitrification; yet M. Fontanieu prefers lead in ſcales, and next to that minium, as being the moſt conſtantly pure. Sift through a ſilk ſieve the preparations of lead to be uſed in the vitrification, to ſeparate the groſſer parts; as alſo the lead in a metallic ſtate when white lead in ſcales is employed. The baſe of factitious gems is calx of lead and rock-cryſtal. Pure ſand, flint, and the tranſparent pebbles of rivers, are ſubſtances equally fit to make glaſs: but as it is firſt neceſſary to break maſſes of cryſtal, ſtones, or pebbles, into ſmaller parts; ſo by this operation particles of iron or copper are frequently introduced, and to theſe duſt or greaſy matters are alſo apt to adhere. Our author therefore begins by putting the pounded cryſtal or pebbles into a crucible, which he places in a degree of heat capable of making the maſs red-hot; he then pours it into a wooden bowl filled with very clear water; and ſhaking the bowl from time to time, the ſmall portions of coals furniſhed by the extraneous bodies ſwim on the ſurface of the water, and the vitrifiable earth, with the iron, &c. reſts on the bottom. He then decants the water; and having dried the maſs, pounds it, ſifts the powder through the fineſt ſilk ſieve; then digeſts the powder 4 or 5 hours with muriatic acid, ſhaking the mixture every hour. After having decanted the acid from the vitrifiable earth, he waſhes the latter until the water no longer reddens the tincture of turnſol. The earth, being dried, is paſſed through a ſilk ſieve, and is then fit for uſe. Nitre, ſalt of tartar, and borax, are the three ſpecies of ſalts that enter with quartz and the calces of lead into M. Fontanieu's vitrifications. The ſucceſs depends much on the accurate proportion of the ſubſtances made uſe of to form the cryſtal which ſerves as a baſe. After having tried a great variety of receipts, our author recommends the following: 1. Take two parts and a half of lead in ſcales, one part and a half of rock-cryſtal or prepared flints, half a part of nitre, as much borax, and a quarter part of glaſs of arſenic. Theſe being well pulverized and mixed together are put into a Heſſian crucible, and ſubmitted to the fire. When the mixture is well melted, pour it into cold water: then melt it again a 2d and a 3d time; taking care after each melting to throw it into freſh cold water, and to ſeparate from it the lead that may be revived. The ſame crucible ſhould not be uſed a 2d time, as the glaſs of lead is apt to penetrate it, and loſe the contents. Cover the crucible well, to prevent any coals getting into it, which would ſpoil the compoſition. 2. Take two parts and a half of white ceruſe, one part of prepared flints, half a part of ſalt of tartar, and a quarter part of calcined borax: melt the mixture in a Heſſian crucible, and then pour it into cold water; then melt it again, and waſh it a 2d and a 3d time, the ſame precautions being obſerved. 3. Take two parts minium, one part rock-cryſtal, half a part of nitre, and as much ſalt of tartar: this mixture being melted, muſt be treated as the former. 4. Take three parts of calcined borax, one part of prepared rock-cryſtal, and one part of ſalt of tartar; theſe being well mixed and melted together, muſt be poured into warm water; the water being decanted

canted and the mafs dried, an equal quantity of minium muft be added to it; it is then to be melted and waſhed ſeveral times as directed above. 5. That called by our author the *Mayence baſe*, and which he conſiders as one of the fineſt cryſtalline compoſitions hitherto known, is thus compoſed: Take three parts of fixed alkali of tartar, 1 part of rock-cryſtal or flint pulverized: the mixture to be well baked together, and then left to cool. It is afterwards poured into a crucible of hot water to diſſolve the fritt; the ſolution of the fritt is then received into a ſtone-ware pan, and aquafortis added gradually till it no longer effervefces: this water being decanted, the fritt muſt be waſhed in warm water till it has no longer any taſte: the fritt is then dried, and mixed with one part and a half of fine ceruſe or white lead in ſcales; and this mixture muſt be well levigated with a little diſtilled water. To one part and a half of this powder dried add an ounce of calcined borax: let the whole be well mixed in a marble mortar, then melted and poured into cold water. Theſe fuſions and lotions having been repeated, and the mixture dried and powdered, a 12th part of nitre muſt be added, and then melted for the laſt time; when a very fine cryſtal will be found in the crucible. 6. For very fine white ſtones: take 8 oz. of ceruſe, 3 oz. of rock cryſtal pulverized, 2 oz. of borax finely powdered, and half a grain of manganeſe; having melted and waſhed this mixture as above, it produces a very fine white cryſtal.

(9.) PASTES, M. FONTANIEU'S PROCESS FOR COLOURING. On the preparation of the calces of metals depends the vividneſs of the colours. *a*, From *Gold*. To obtain the mineral purple named *precipitate of Caſſius*: 1. Diſſolve ſome pure gold in aqua regia, prepared with 3 parts of precipitated nitrous acid and one part of muriatic acid; to haſten the diſſolution, the matraſs ſhould be placed in a ſand-bath. Into this pour a ſolution of tin in aqua regia. The mixture becomes turbid, and the gold is precipitated with a portion of the tin, in the form of a reddiſh powder; which after being waſhed and dried, is called *precipitate of Caſſius*.—The aqua regia employed to diſſolve the tin is compoſed of 5 parts nitrous acid and one part of muriatic acid: to 8 oz. of this aqua regia are added 16 oz. of diſtilled water. Some leaves of Malacca tin, about the ſize and thickneſs of a ſixpence, are then put into this diluted aqua regia, till it will diſſolve no more of them: which operation requires commonly 12 or 14 days; though it might be haſtened by beating the tin ſtill thinner, and then rolling it into the form of a hollow cylinder, or turning it round into ſpiral convolutions. To prepare more readily the precipitate of Caſſius, M. Fontanieu puts into a large jug eight ounces of ſolution of tin, to which he adds four pints of diſtilled water: he afterwards pours into this metallic lye ſome ſolution of gold, drop by drop, taking care to ſtir the whole with a glaſs tube: when the mixture becomes of a deep purple colour, he ceaſes dropping the ſolution of gold; and to haſten the precipitation of the mineral purple, pours into the mixture a pint of freſh urine. Six or ſeven hours after, the precipitation is collected at the bottom of the veſſel: the fluid is then decanted; and the precipitate, waſhed once or twice, is dried till it becomes a brown powder. 2. Pour into veſſel of fine tin with a thick bottom 4 oz. of th ſolution of gold; three minutes after add two pin of diſtilled water. Let this mixture ſtand in th tin veſſel 7 hours, taking care to ſtir it every ho with a glaſs tube; afterwards pour it into a cor cal glaſs jug, and add to it a pint of new urine; t mineral purple is ſoon precipitated, and then is be waſhed and dried. 3. Diſtil in a glaſs cornu placed in a bath of aſhes, ſome gold diſſolved aqua regia, made with three parts nitrous and o part muriatic acid; when the acid is paſſed ov and the gold contained in the cornute appears di leave the veſſel to cool, then pour into it for new aqua regia, and proceed to diſtil as befo Replace the aqua regia twice upon the gold a diſtil the ſame. After theſe four operations, po by little and little into the cornute ſome oil of t tar *per deliquium*, which will occaſion a briſk eff veſcence: when this ceaſes, diſtil the mixture it becomes dry, and then put ſome warm wa into the cornute. Shake the whole and pour into a cucurbit, when a precipitate is depoſi the colour of which is ſometimes brown and ſo times yellow: After having waſhed this preci tate, dry it. This mineral purple is much ſup or to the foregoing, two grains of it only w ſufficient to an ounce of the baſe, whilſt it req ed of the other two a 20th part of the baſe. found a means of exalting the colour of the p cipitate of Caſſius, by putting to it a ſixth part o weight of glaſs of antimony finely powdered, of nitre in the proportion of a dram to 8 oz. the baſe. *b*, From *Silver*. The calx of ſil being vitrified, produces a yellowiſh grey col This calx enters only into the compoſition of yellow artificial diamond and the opal. M. F tanieu introduces it into the baſe in the form luna cornea. To prepare it, diſſolve the ſilve precipitated nitrous acid, and afterwards p into it a ſolution of ſea-ſalt: a white precipi is obtained; which, being waſhed and dried, m very readily in the fire, and is ſoon volatili if not mixed with vitrifiable matters. To m the yellow diamond, 25 grains of this luna co are put to an ounce of the baſe: the doſe of f may be diminiſhed according to the ſhade of low that one wiſhes to procure. *c*, From *Co* The calx of copper imparts to white glaſs fineſt green colour; but if this metal be not actly in a ſtate of calx, it produces a brow red colour. *Mountain blue*, *verdigris*, and th ſidue of its diſtillation, are the different prep tions of copper which our author employ to make the artificial emeralds. *d*, From Although it has been aſſerted, that the calc iron introduce a very fine tranſparent red co into white glaſs, M. Fontanieu could only el from it a pale red, a little opake. The ca iron that he employed was in the proportio the 20th part of the baſe. There are ſeveral of preparing the calx of iron called *crocus M* or *ſaffron of Mars*. One may uſe the ſcales of found upon the bars of the furnaces, which to diſtil aquafortis. By digeſting filings of with diſtilled vinegar, then evaporating and r ing the vinegar 10 or 12 times upon theſe fil

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and drying them alternately, a calx of iron is obtained, which muſt be ſifted through a ſilk ſieve, and then calcined. The calx of iron thus obtained by the vinegar, introduced a green colour inclining to a yellow. By the following proceſs a *Saffron of Mars* of the fineſt red colour is obtained: Let an ounce of iron filings be diſſolved in nitrous acid in a glaſs cornute, and diſtilled over a ſand-bath to dryneſs. After having replaced the acid on the dry calx, and re-diſtilling it a 2d and 3d time, it is then edulcorated with ſpirit of wine, and afterwards waſhed with diſtilled water. *e*, From the *Magnet*. Calcine the magnet before it be introduced into the vitrifications: Having torrified the magnet two hours, it muſt be waſhed and dried. It is only employed in the compoſition of the opal. *f*, From *Cobalt*. The calx of cobalt is only proper to introduce a blue colour into glaſs; but this metal is rarely free from iron and biſmuth, and therefore it is firſt neceſſary to ſeparate them from it. This is done by calcining the ore of cobalt to diſengage the arſenic; afterwards the calx muſt be diſtilled in a cornute with ſal ammoniac, and the iron and the biſmuth are ſublimed with this ſalt. The diſtillation muſt be repeated with the ſal ammoniac till this ſalt is no longer coloured yellow. The cobalt which remains in the cornute is then calcined in a potſherd, and becomes a very pure calx: which being introduced into the baſe, in the proportion of a tenth part, gives it a very fine blue colour, the intenſity of which may be increaſed at diſcretion by the addition of calx of cobalt. To prepare *black enamel* reſembling that which is called *black agate* of Iceland; melt together 1½lb. of one of the baſes, 2 oz. of the calx of cobalt, 2 oz. of *crocus Martis*, prepared with vinegar, and 2 oz. of manganeſe. *g*, From *Tin*. The calx of tin is not vitrifiable alone, it renders opake the glaſs with which it is melted, and forms white enamel. For this purpoſe, calcine the putty of tin; then waſh and dry it, and ſift it through a ſilk ſieve. Take 6 lb. of the 2d baſe, the ſame quantity of the calcined putty of tin, and 48 grains of manganeſe. *h*, From *Antimony*. If the antimony be in a ſtate of abſolute calx, ſuch as the diaphoretic antimony, it is no longer vitrifiable, and may be ſubſtituted for calx of tin, to make white enamel. M. Fontanieu introduces the glaſs of antimony in the compoſition of artificial topazes. For the *oriental topaz*, he takes 24 oz. of the firſt baſes and five drachms of the glaſs of antimony. To imitate the *topaz of Saxony*, he adds to each ounce of the baſe five grains of the glaſs of antimony. For the *topaz of Brazil*, he takes 24 oz. of the firſt baſe, and one ounce 24 grains of glaſs of antimony, and 8 grains of the *precipitate of Caſſius*. *i*, From *Manganeſe*. This mineral, employed in a ſmall quantity, renders the glaſs whiter; a larger quantity produces a very fine violet colour, and a ſtill larger doſe of it renders the glaſs black and opake. There are two ways of preparing manganeſe: 1. The moſt ſimple conſiſts in expoſing it to a red heat, and then quenching it with diſtilled vinegar; it is afterwards dried and powdered, to paſs it through a ſilk ſieve. 2. Haudiquer de Blancour directs the 2d manner of preparing the manganeſe, proper to furniſh a red colour, and names it *fuſible manganeſe*. Take of manganeſe, of Piedmont one pound; torrify and pulverize it; then mix it with a pound of nitre, and calcine the mixture during 24 hours; afterwards waſh it repeatedly in warm water, till the water of the lyes has no longer any taſte; dry the manganeſe, and mix with it an equal weight of ſal ammoniac; levigate this mixture on a ſlab of porphyry with oil of vitriol diluted with water to the ſtrength of vinegar. Dry the mixture, and introduce it into a cornute; diſtil by a graduated fire; and when the ſal ammoniac is ſublimed, weigh it, and add to the mixture an equal quantity. Then diſtil and ſublime as before, and repeat the operation ſix times; at each time mix the ſal ammoniac and the manganeſe upon the porphyry with diluted oil of vitriol. At Tournhault in Bohemia, there is ſold a fuſible glaſs of a yellow colour, very like that of the topaz of Brazil, which, when expoſed to a degree of fire in a cupel ſufficient to redden it, becomes of a very fine ruby colour, more or leſs deep according to the degree of fire to which it has been expoſed. Our author aſſayed this glaſs, and found it to contain a great deal of lead, but was not able to diſcover any gold in it.

(10.) PASTES, M. FONTANIEU'S RULES, RESPECTING THE FIRE, FURNACE, AND COMPOSITIONS FOR. There are three degrees of heat very different in their energy. The fire kept up in the wind-furnaces in the laboratories of chemiſts, is leſs active than that whoſe effect is accelerated by the means of bellows; and a fire ſupported by wood, and kept up during 60 hours without interruption, produces ſingular effect in vitrification, and renders the glaſs finer and leſs alterable. When recourſe is had to the forge, in order to operate a vitrification, it is neceſſary to turn about the crucible from time to time, that the maſs may melt equally. Some coal alſo ſhould be replaced, in proportion as it conſumes towards the nozel of the bellows; for without this precaution, we ſhould run the riſk of cooling the crucible oppoſite to the flame, and probably of cracking it, when all the melted maſs running among the coals would be totally loſt. Though this is the readieſt way of melting, it ſhould not be employed out of choice; for the crucible often breaks, or coals get into it, and reduce the calx of lead to a metallic ſtate. The wind furnace is either ſquare or round. A ſmall cake of baked clay or brick, of the thickneſs of an inch, is placed upon the grate; and upon this cake is placed the crucible, ſurrounded with coals. The degree of heat produced by this furnace is much leſs than that of the forge: but to ſucceed in the vitrification, M. Fontanieu recommends a furnace deſcribed by Kunckel, which, with ſome neceſſary alterations, is repreſented on *Plate* CCLXIX. The interior part is ſo diſpoſed, that we may place crucibles at three different heights; and the name of *chambers* is given to thoſe ſteps upon which the crucibles are placed. *Fig.* 1. is a plan of the kiln at the firſt chamber, and *fig.* 2. a plan of the kiln where the fire is placed. *Fig.* 3. exhibits the elevation; A the aſh-pit; B the door to put in the wood; C the door of the firſt chamber; D the door

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door of the second chamber; E the third chamber; F the flue or chimney; GG iron hoops which surround the kiln to strengthen it. *Fig.* 4. is a section of the kiln: H the ash-pit with its air-hole; I the chamber for the fire, with an air-hole; K the first chamber for the crucibles; L the second chamber; M the dome; N the chimney; OO air-holes. The degree of heat cannot be equal in the 3 chambers. The chamber K is that where the heat is greatest, afterwards in that of L, and lastly, in that of M. Begin by placing the crucibles according to their size, in these different chambers; by which means the best effect in vitrification is produced. To conduct the fire well, only three billets of white wood should be put into the furnace at a time for the first 20 hours, four billets at a time for the next 20 hours, and six billets for the last 20 hours; in all 60 hours. The furnace is then left to cool, care being taken to stop the air-holes with some lute; and, in about 48 hours after, when the kiln is quite cold, the crucible is to be withdrawn. COMPOSITIONS. 1. For the *white diamond:* Take the base of Mayence. This crystal is very pure, and has no colours. 2. For the *yellow diamond:* to an ounce of the 4th base, add for colour 25 grains of luna cornea or 10 grains of glass of antimony. 3. For the *emerald:* 1. To 15 oz. of either of the bases, add for colour one dr. of mountain-blue and six gr. of glass of antimony; or, 2. To 1 oz. of the 3d base, add 20 gr. of glass of antimony and 3 gr. of calx of cobalt. 4. For the *sapphire:* To 24 oz. of the Mayence base, add 2 dr. 64 gr. of the calx of cobalt. 5. For the *amethist:* To 24 oz. of the Mayence base, add 4 dr. of prepared manganese and 4 gr. of precipitate of Cassius. 6. For the *beril:* To 24 oz. of the 3d base, add 96 gr. of glass of antimony and 4 gr. of calx of cobalt. 7. For the *black agate:* To 24 oz. of either of the bases, add 2 oz. of the mixture directed above in par. *f.* 8. For the *opal:* To 1 oz. of the 3d base, add 10 gr. of luna cornea, 2 gr. of maguet, and 26 gr. of absorbent earth. 9. For the *oriental topaz:* To 24 oz. of the first or third base, add 5 dr. of glass of antimony. 10. For the *topaz of Saxony:* To 24 oz. of the same base, add six dr. of the glass of antimony. 11. For the *topaz of Brazil:* To 24 oz. of the 2d or 3d base, add 1 oz. 24 gr. of the glass of antimony, and 8 gr. of precipitate of Cassius. 12. For the *hyacinth:* To 24 oz. of the base made with rock-crystal, add 2 dr. 48 gr. of glass of antimony. 13. For the *oriental ruby:* 1. To 16 oz. of the Mayence base, add a mixture of 2 dr. 48 gr. of the precipitate of Cassius, the same quantity of crocus Martis prepared in aquafortis, the same of golden sulphur of antimony and of fusible manganese, with 2 oz. of mineral crystal; or, 2. To 20 oz. of the base made with flint, add half an ounce of fusible manganese and 2 oz. of mineral crystal. 14. For the *balas ruby:* 1. To 16 oz. of the Mayence base, add the above colouring powder, but diminished ¼ part; or, 2. To 20 oz. of the base made with flints, add the same colouring powder, but with a 4th less of the manganese. The *factitious* gems are easily distinguished from the *natural*, by their softness and fusibility; by their solubility in acids; by their causing only a single refraction of the rays of light; and, in many cases by their specific gravity, which exceeds 2·76 in all precious gems of the first order, as the diamond, ruby, sapphire, &c.

(11.) PASTES, REVIVED ART OF MAKING, IN IMITATION OF ANTIQUE GEMS. There has been at different times a method practised by particular persons of taking the impressions and figures of antique gems, with their engraving, in glass of the colour of the original gem. This has always been esteemed a very valuable art, and greatly preferable to the ordinary method of doing it in sealing-wax or brimstone; but this art, being a secret in the hands of particular persons, who got their bread by it, died with them, and every new artist was obliged to re-invent the method; till at length Mr Homberg, having discovered it in great perfection, gave the whole process to the world to be no more lost; and since that time, has been practised in France and other places. Mr Homberg was favoured in his attempts with all the engraved gems of the king's cabinet; and took such elegant impressions, and made such exact resemblances of the originals, and that in glasses so artfully tinged to the colour of the gems themselves, that the nicest judges were deceived in them, and often took them for the true antique stones. These counterfeit gems also serve, as well as the original ones, to make more copies from; so that there is no end of the numbers that may be made from one; and there is this farther advantage, that the copy may be made perfect, tho' the original should not be so, but should have sustained some damage. The chief care in the operation is to take the impression of the gem in very fine earth, and to press down upon this a piece of proper glass, softened or half melted at the fire, so that the figures of the impression made in the earth may be nicely and perfectly expressed upon the glass. In general, the whole process much resembles that of the common founders: although in this nice foundery there is a number of difficulties which would not at all affect the common founder. For his purpose, every earth will serve that is fine enough to receive the impressions, and tough enough not to crack in the drying: these all serve for their use, because the metals which they cast are of a nature incapable of mixing with earth, or receiving it into them, even if both are melted together, that the metal always easily and perfectly separates itself from the mould; but it is very difficult in these casts of glass. They are composed of a matter which differs in nothing from that of the mould, but that it has been run into this form by the force of fire, and the other has not yet been so run, but is on any occasion ready to be so run, and will mix itself inseparably with the glass in a large fire: consequently, if there be not great care used, as well in the choice of the glass as in the manner of using it, when the whole is finished there will be found great difficulty in the separating the glass from the mould, and often this cannot be done without wholly destroying the impression. All earths run more or less easily in fire as they are more or less mixed with saline

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tales. As all salts make earths run into glass, and as it is necessary to use an earth on this occasion for the making a mould, it being also necessary to the perfection of the experiment, that this earth should not melt or run, some earth must be got which naturally contains very little salt. Of all the earths which Mr Homberg examined, none proved so much divested of salts, or so fit for the purpose, as the common TRIPOLI, or TRIPELA, used to polish glass and stones. Of this earth there are two common kinds; the one reddish, and composed of several flakes or strata; the other yellowish, and of a simple structure. These are both to be had in shops. The latter is from the Levant: the former is found in England, France, and many other places. This tripela must be chosen soft and smooth to the touch, and not mixed with sandy or other extraneous matter. The yellowish kind, commonly called *Venetian tripoli*, is the best. It receives the impressions very beautifully; and never mixes with the glass in the operation, which the red kind sometimes does. Mr Homberg usually employed both kinds at once in the following manner: first, powder a quantity of several tripela in an iron mortar, and sifting it through a fine sieve set it by for use; then scrape with a knife a quantity of the yellow tripela into a sort of powder, and afterwards rub it till very fine in a glass mortar with a glass pestle. The finer this powder is, the finer will be the impression, and the more accurately perfect the cast. The artificer might naturally suppose, that the best method to obtain a perfect fine powder of this earth, would be by washing it in water; but he must be cautioned against this. There is naturally in this yellowish tripela a sort of unctuosity, which when it is formed into a mould keeps its parts together, and gives the whole an uniform smooth surface: now the washing the powder takes away this unctuosity; and though it renders it much finer, it makes it leave a granulated surface, not the smooth one, in the mould; and this must render the surface of the cast less smooth. When the two tripelas are separately powdered, the red must be mixed with so much water as will reduce it to the consistence of paste, so that it may be moulded like a lump of dough between the fingers; this paste must be put into a small crucible of a flat shape, and about half an inch or little more in depth, and of such a breadth at the surface as is a little more than that of the stone whose impression is to be taken. The crucible is to be nicely filled with this paste lightly pressed down into it, and the surface of the paste must be covered over with the fine powder of the yellow tripela not wetted. When this is done, the stone, of which the impression is to be taken, must be laid upon the surface, and pressed evenly down into the paste with a finger and thumb, so as to give a strong and perfect impression; the paste is then to be pressed nicely even to its sides with the fingers, or with an ivory knife. The paste must be thus left a few moments, for the moisture of the paste to moisten the dry powder of the yellow tripela which is strewed over it: then this is to be carefully raised by the point of a knife fixed in a handle of wood; and the crucible being then turned bottom upwards, it will fall out, and the impression will remain very beautifully on the tripela. If the sides of the cavity have been injured in the falling out of the stone, they may be repaired; and the crucible must then be set, for the paste to dry, in a place where it will not be incommoded by the dust. The red tripoli being the more common and the cheaper kind, is here made to fill the crucible only to save the other, which alone is the substance fit for taking the impression. When the stone is taken out, it must be examined, to see whether any thing be lodged in any part of the engraving, because if there be any of the tripela left there, there will certainly be so much wanting in the impression. When the crucible and paste are dry, a piece of glass must be chosen of a proper colour, and cut to a size proper for the figure; this must be laid over the mould, but in such a manner that it does not touch the figures, otherwise it would spoil them. The crucible is then to be brought near the furnace by degrees, and gradually heated till it cannot be touched without burning the fingers; then it is to be placed in the furnace under a muffle, surrounded with charcoal. Several of these small crucibles may be placed under one muffle; and when they are properly disposed, the aperture of the muffle should have a large piece of burning charcoal put to it, and then the operator is to watch the process, and see when the glass begins to look bright: this is the signal of its being fit to receive the impression. The crucible is then to be taken out of the fire; and the hot glass must be pressed down upon the mould with an iron instrument, to make it receive the regular impression: as soon as this is done, the crucible is to be set at the side of the furnace out of the way of the wind, that it may cool gradually without breaking. When it is cold, the glass is to be taken out, and its edges should be grated round with pincers, which will prevent its flying afterwards, which is an accident that sometimes happens when this caution has been omitted, especially when the glass is naturally tender. The different coloured glasses are of different degrees of hardness, according to their composition; but the hardest to melt are always the best for this purpose, and this is known by a few trials. If it be desired to copy a stone in relief which is naturally in creux, or to take one in creux which is naturally in relief, there needs no more than to take an impression first in wax or sulphur, and to mould that upon the paste of tripela instead of the stone itself: then proceeding in the manner before directed, the process will have the desired success. A more simple and easy method than the above is by taking the casts in gypsum, or plaster of Paris, as it is commonly called. For this purpose, the gypsum must be finely pulverised, and then mixed with clear water to the consistence of thick cream. This is poured upon the face of the gem or seal of which the impression is wanted, and which must be previously moistened with oil to facilitate the separation of the cast; and to confine the liquid plaster, it is only necessary to pin a slip of oiled paper round the sides of the seal, by way of a cape or rim. When the plaster is dry, it is to be taken off, and

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ſet before the mouth of the furnace, to free it entirely from moiſture; when it is fit to be uſed as a matrix in the ſame way as that formed with the tripela earths. Only no crucible or other receptacle is at all neceſſary; the caſts being formed like ſo many ſmall cakes half an inch thick, and thus put into the furnace with the bits of glaſs upon them. The glaſs, after coming to the proper heat, is preſſed down upon the mould with an iron ſpatula to receive the deſired impreſſion, the preſſure requiſite being more or leſs according to the ſize of the ſtone. This method has been long practiſed very ſucceſsfully, and with no ſmall emolument, by Mr Deuchar of Edinburgh. The only reſpect in which it is inferior to the other more operoſe and expenſive methods, conſiſts in the chance of air-bubbles ariſing in pouring on the plaſter; which chance, however, is leſs in proportion to the fineneſs of the gypſum employed. When air-bubbles occur, the caſts may be laid aſide, as it is ſo eaſy to renew them. The application of paſtes to multiply and preſerve the impreſſions of camaieux and intaglios, is an object very intereſting to artiſts and to antiquaries, as well as to men of learning and taſte in the fine arts. This art, though only lately reſtored in any degree of perfection, is of very conſiderable antiquity. The great prices which the ancients paid for the elegant gems engraved by the celebrated Greek artiſts, could not but early ſuggeſt to them the idea of multiplying their numbers, by taking off their impreſſions in wax, in ſulphur, in plaſter, or in clay; but more particularly in coloured glaſs, or that vitrified ſubſtance commonly called *paſte*. As the impreſſions on paſte are durable, and imitate the colours and brilliancy of the original ſtones, they ſerve the ſame purpoſes as the gems themſelves. This art was therefore practiſed not only by the Greeks, but by all the nations who cultivated Grecian taſte. Many of the fineſt gems of antiquity are now loſt, and their impreſſions are to be found only on ancient paſtes. Great therefore is the value of theſe paſtes. Numerous collections of them have been formed by the curious. Inſtances of this are found in the Florentine Muſæum, in Stoſch's work on ancient gems with inſcriptions, in Winckelmann's deſcription of Stoſch's cabinet, and in the noble collection of Mr Charles Townley in London. The art of taking impreſſions of gems ſeems not to have been altogether loſt even in the Gothic ages; for Heraclius, who probably lived in the 9th century, and wrote a book *De coloribus et artibus Romanorum*, teaches in very plain terms how to make them. Indeed, ſome of the few, who then poſſeſſed this art, taking advantage of the ignorance of the times, ſold paſtes for original gems. Thus the famous emerald of the abbey of Reichnaw near Conſtance, although a preſent made by Charlemagne, is now found to be a piece of glaſs. And thus the celebrated emerald vaſe in the cathedral of Genoa is likewiſe found to be a paſte. The Genoeſe got this vaſe at the taking of Ceſarea, in 1101, as a equivalent for a large ſum of money; nor was any impoſition then ſuſpected, for in 1319 they pawned it for 1200 marcs of gold. But this ingenious art, revived indeed in Italy in the time of Laurence De Medicis, and Pope Leo X. was not cultivated in an extenſive manner till the beginning of the 18th century, when M. Homberg reſtord it. In this he is ſaid to have been greatly aſſiſted and encouraged by the then duke of Orleans regent of France, who amuſed himſelf with that celebrated chemiſt, in taking off impreſſions in paſte from the king of France's, his own, and other collections of gems. According to the French Encyclopediſts, M. Clachant the elder, engraver of ſome note, who died at Paris in 17[illegible] learned this art from his royal highneſs, to whose houſehold his father or he ſeems to have belonged. Mad. Feloix next cultivated this art. She had been taught by her father, who, in quality of garçon de chambre to the regent had often aſſiſted the laboratory of his maſter, where he acquired this knowledge. Her collection conſiſts of 18[illegible] articles. Baron Stoſch, a Pruſſian, who travelled over Europe in queſt of original engraved ſtones and impreſſions of ancient gems, for the elegant work which he publiſhed and Picart engraved entitled *Gemmæ antiquæ coloratæ*, was well acquainted with this art. He had taught it to his ſervant Chriſtian Dehn, who ſettled at Rome where he made and ſold his well known ſulphur impreſſions and paſtes. He had collected 2500 articles. Dolce has arranged them in a ſcientific order, and given a deſcriptive catalogue of them. It was chiefly from Dehn's collection that the taſte for ſulphurs and paſtes has become ſo univerſal. They are great objects of ſtudy, and often require much learning to explain them. They have queſtionably ſerved to extend and improve the art of engraving on ſtones; and have been of infinite uſe to painters, to ſtatuaries, and to other artiſts as well as to men of claſſical learning and taſte. It is very difficult to take off impreſſions and perfectly to imitate various coloured cameos. It cannot be properly done in wax, ſulphur, plaſter, or glaſs of one colour only. The difficulties ariſing from their ſize and form, and from the various nature of the different ſorts of glaſs, which do not well unite into different ſtrata, are very numerous: nor could the completeſt ſucceſs in the chemical and mechanical branch of the art produce a tolerable cameo. Impreſſions or imitations if unaſſiſted by the tool of the engraver, do not ſucceed: becauſe the undercutting and deep work of moſt of the originals require to be filled up with clay or wax, that the moulds may come off whole without injuring them. Hence the impreſſions from theſe moulds come off hard and deſtitute of delicacy, ſharpneſs, and preciſion of outline; the underworking of the moulder is cut away. But Mr Reiffenſtein at Rome, by his genius, aſſeverance, and the aſſiſtance of able artiſts, has overcome theſe difficulties; and has had the ſatisfaction of ſucceeding, and producing variegated cameos which can hardly be diſtinguiſhed from the originals. Mr Lippart of Dreſden, an ingenious glazier, and an enthuſiaſt in the fine arts, practiſed this branch not unſucceſsfully; but not finding ſufficient encouragement for his paſtes of coloured glaſs, or perhaps from local difficulties in making them well and cheap, he abandoned this art. He ſubſtituted in its place impreſſions of fine white alabaſter or of ſelenite [illegible]ter. Such impreſſions, when carefully ſoaked in a ſolu-

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a ſolution of white Caſtile ſoap, then dried, and rubbed over with a ſoft bruſh, take a very agreeable poliſh. They ſhow the work perhaps to better advantage than red or white ſulphurs do; but they are not ſo durable, and are liable to be defaced by rubbing. Of theſe impreſſions Mr Lippert publiſhed 3 different collections, each of them containing 1000 articles; and to the merit of having increaſed the number of Mad. Feloix and Chriſtian Dehn's collections, which are all mentioned in his, he added, that of employing two learned Germans to arrange and deſcribe them. The firſt 1000 were arranged and deſcribed by the late Prof. Chriſt at Leipſic, and the 2d and 3d 1000 by Prof. Heine at Goettingen. Nor did Mr Lippert ſtop here; but to make the ſtudy of antiquity more eaſy and acceptable to artiſts, he ſelected out of the whole collection of 3000, a ſmaller one of 2000 of the beſt and moſt inſtructive ſubjects, of which himſelf drew up and publiſhed a deſcription in German. But of all the artiſts who have taken impreſſions of engraved gems in ſulphur and in paſte, no one ſeems to have carried that art to ſuch perfection as Mr James Taſſie, a native of Glaſgow, who has reſided in London ſince 1766. His knowledge in various branches of the fine arts, particularly in that of drawing, naturally led him to it. The elegant portraits which he models in wax, and afterwards moulds and caſts in paſte, which entirely reſemble cameos, are well known to the public. Mr Taſſie, profiting of all the former publications of this ſort, and by expence, intereſt, and acceſs to many cabinets in England and other kingdoms, to which former artiſts had not obtained admiſſion, has now increaſed his collection of impreſſions of ancient and modern gems to the number of above 15,000 articles. It is the largeſt collection of this kind that ever exiſted; and ſerves for all the purpoſes of artiſts, antiquaries, ſcholars, men of taſte, and philoſophers. The great demand for his paſtes was perhaps owing at the beginning to the London jewellers, who introduced them into faſhion, by ſetting them in ſeals, bracelets, necklaces, and other trinkets. The reputation of this collection having reached the empreſs of Ruſſia, ſhe ordered a complete ſet; which being accordingly executed in the neateſt and moſt durable manner, were arranged in elegant cabinets, and placed in the apartments of her imperial palace at Czarſko Zelo. Mr Taſſie, in executing this commiſſion, availed himſelf of all the advantages which the improved ſtate of chemiſtry, the various ornamental arts, and the knowledge of the age, afforded. The impreſſions were taken in a beautiful white enamel compoſition, which is not ſubject to ſhrink or form air-bladders; it endures fire when ſtruck with ſteel, and takes a fine poliſh; and which ſhows every ſtroke and touch of the artiſt in higher perfection than any other ſubſtance. When the colours, mixed colours, and nature of the reſpective originals, could be aſſimilated, they were imitated as completely as art could imitate them; inſomuch that many of the ſardonyxes and cameos in this collection are ſuch exact imitations, that artiſts themſelves have owned they could hardly be diſtinguiſhed from the originals. And when the colour and nature of the gems could not be authenticated, the paſtes were executed in agreeable, and chiefly tranſparent, colours; conſtant attention being beſtowed to preſerve the outlines, extremities, attributes, and inſcriptions. It was the learned Mr Raſpe (from which this account is taken) who arranged this great collection, and made out the deſcriptive catalogue. His arrangement is nearly the ſame with that of the late Abbé Winckelmann, in his deſcription of the gems which belonged to Baron Stoſch. But as modern works were inſerted in this collection, he found it neceſſary to make a few alterations, and added ſome diviſions to thoſe of M. Winckelmann, as will appear from the following conſpectus; I. Ancient Art and Engravings. Egyptian. Hieroglyphics, ſacred animals, divinities, prieſts. Baſilidian, Gnoſtic, and other taliſmans, &c. Oriental and barbarous ancient and modern engravings. Greek and Roman originals, copies, and imitations (the Etruſcan are claſſed with the Greek works.) A, Mythology or fabulous age. Gods, inferior diviniities, religious ceremonies. B, Heroic age before the ſiege of Troy. C, Siege of Troy. D, Hiſtoric age. Of Carthage, Greece, Rome, ſubjects unknown. E, Fabulous animals and chimeras. F, Vaſes and urns. II. Modern Art and Engravings. A, Religious ſubjects. B, Portraits of kings and ſovereigns. C, Portraits of illuſtrious men in alphabetical order. D, Portraits unknown. E, Devices and emblems. F, Cyphers, arms, ſupporters, and medley of modern hiſtory.

* *To* PASTE. *v. a.* [*paſter*, Fr. from the noun.] To faſten with paſte.—By *paſting* the vowels and conſonants on the ſides of dice, his eldeſt ſon played himſelf into ſpelling. *Locke.*—Young creatures have learned their letters and ſyllables, by having them *paſted* upon little flat tablets. *Watts.*

(1.) * PASTEBOARD. *n. ſ.* [*paſte* and *board.*] Maſſes made anciently by paſting one paper on another: now made ſometimes by macerating paper and caſting it in moulds, ſometimes by pounding old cordage, and caſting it in forms.—Tintoret made chambers of board and *paſteboard*, proportioned to his models. *Dryden.*—I would not make myſelf merry even with a piece of *paſteboard*, that is inveſted with a publick character. *Addiſon.*

(2.) * PASTEBOARD. *adj.* Made of paſteboard.—Put ſilkworms on whited brown paper into a *paſteboard* box. *Mortimer.*

(3.) PASTEBOARD is chiefly uſed for binding books, making letter-caſes, &c. See PAPER-MAKING, *Sect.* II, § 5.

(1.) * PASTEL. *n. ſ.* [*glaſtum.*] An herb. *Ainſ.*

(2.) PASTEL. See PASTIL.

(1.) * PASTERN. *n. ſ.* [*paſturon*, Fr.] 1. That part of the leg of a horſe between the joint next the foot and the hoof.—I will not change my horſe with any that treads on four *paſterns*. *Shak. Henry* V.—

Upright he walks on *paſterns* firm and ſtraight.
Dryden.

—Being heavy, he ſhould not tread ſtiff, but have a *paſtern* made him, to break the force of his weight. *Grew.* 2. The legs of an human creature in contempt.—

So ſtrait ſhe walk'd, and on her *paſterns* high.
Dryden.

(2.) PASTERN, in the manege. See FARRIERY, *Part* I.

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Part I, *Sect.* I. This part ſhould be ſhort, eſpecially in middle-ſized horſes; becauſe long paſterns are weak, and cannot ſo well endure travelling.

(3.) PASTERN JOINT, the joint next a horſe's foot.

(1.) * PASTIL. *n. ſ.* [*paſtillus*, Lat. *paſtille*, Fr.] A roll of paſte.—To draw with dry colours, make long *paſtils*, by grinding red lead with ſtrong wort, and ſo roll them up like pencils. *Peacham.*

(2.) PASTIL, or PASTEL, among painters, is a paſte made of different colours ground up with gum-water, to make CRAYONS. See PAINTING, *Part* II, *Sect.* V, § II.

(3.) PASTIL, in pharmacy, is a dry compoſition of ſweet-ſmelling reſins, aromatic woods, &c. ſometimes burnt to clear and ſcent the air of a chamber.

(1.) * PASTIME. *n. ſ.* [*paſs* and *time.*] Sport; amuſement; diverſion.—It was more requiſite for Zelmane's hurt to reſt, than fit up at thoſe *paſtimes*. *Sidney.*—

I'll be as patient as a gentle ſtream,
And make a *paſtime* of each weary ſtep. *Shak.*
Paſtime paſſing excellent. *Shakeſp.*
Find *paſtime*, and bear rule. *Milton.*

—A man, much addicted to luxury, recreation and *paſtime*, ſhould never pretend to devote himſelf entirely to the ſciences. *Watts.*

(2.) PASTIMES of ſome kind ſeem to be abſolutely neceſſary, and to none more than to the man of ſtudy; for the moſt vigorous mind cannot bear to be always bent. Conſtant application to one purſuit, if it deeply engage the attention, is apt to unhinge the mind, and to generate madneſs; of which the Don Quixote of Cervantes, and the aſtronomer of Johnſon, are two admirably conceived inſtances; confirmed by too many facts in real life. See PASCAL, SWIFT, &c. But though paſtime is neceſſary to relieve the mind, it indicates great frivolity when made the buſineſs of life; and yet the rich and the great, who are not obliged to labour for the means of ſubſiſtence, too often rove from paſtime to paſtime with as conſtant aſſiduity as the mechanic toils for his family, or as the philoſopher devotes himſelf to ſcience. When thoſe paſtimes tend to give elaſticity to the mind or ſtrength to the body, ſuch conduct is not only allowable, but praiſe-worthy; but when they produce effects the reverſe of theſe, it is both hurtful and criminal. The gaming-table, the maſquerade, the midnight aſſembly of any ſort, muſt of neceſſity enfeeble both the body and the mind; and yet ſuch are the faſhionable amuſements of the preſent day, to which many a belle and many a beau ſacrifice their beauty, their health, their quiet, and their virtue. Far different were the paſtimes of our wiſer anceſtors: Remote from effeminacy, they were innocent, manly, and generous exerciſes. From ancient records, it appears, that the ſports, amuſements, pleaſures, and recreations, of our anceſtors, as deſcribed by FITZ-STEPHEN, added ſtrength and agility to the wheels of ſtate mechaniſm, while they had a direct tendency towards utility. For moſt of theſe ancient recreations are reſolvable into the public defence of the ſtate againſt the attacks of a foreign enemy. The play at ball, derived from the Romans, is firſt introduced by this author as the common exerci of every ſchool-boy. The performance was in field, where the reſort of the moſt ſubſtantial a conſiderable citizens, to give encouragement a countenance to this feat of agility, was ſplen and numerous. The intention of this amuſem was to make the juvenile race active, nimble, a vigorous; which qualities were requiſite whene their aſſiſtance ſhould be wanted in the protect of their country. The next ſpecies of paſtime a ſimilar tendency, although it was only co FIGHTING, held annually in the afternoon Shrove-Tueſday; for the amazing ſpirit and c rage diſplayed by theſe animals tended to inſ the youth of a warlike nation with a heroic di gard of life itſelf, when put in competition v honour and patriotiſm. Another ſpecies of ma exerciſe was truly martial, and intended to qua the adventurers for martial diſcipline. It is rel by Fitz-Stephen thus: "Every Friday in Len company of young men comes into the fiel horſeback, attended and conducted by the horſemen: then march forth the ſons of the zens, and other young men, with diſarmed la and ſhields; and there practiſe feats of war. M courtiers likewiſe, when the king is near the and attendants upon noblemen, do repair to exerciſes; and while the hope of victory doe flame their minds, they ſhow by good proof ſerviceable they would be in martial affairs." evidently is of Roman deſcent, and immedi brings to our recollection the *Ludus Troiæ*, fu ſed to be the invention, as it was the commo erciſe, of Aſcanius. The common people, in age of maſculine manners, made every amuſe where ſtrength was exerted the ſubject mat inſtruction and improvement: inſtructed to their bodily ſtrength in the maintenance of country's rights; and their minds improve ſuch exertion, into every manly and gen principle. In the vacant intervals of induſtr labour, commonly called the *holy-days*, indo and inactivity, which now mark this porti time, were found only in thoſe who were di pered with age or infirmity. Fitz-Stephen "In Eaſter holydays they fight battles upo water. A ſhield is hanged upon a pole, fix the middle of the ſtream. A boat is pre without oars, to be borne along by the vi of the water; and in the fore part thereof ſta a young man, ready to give charge upon the with his lance. If ſo be that he break his la gainſt the ſhield, and doth not fall, he is th to have performed a worthy deed. If w breaking his lance he runs ſtrongly again ſhield, down he falleth into the water; f boat is violently forced with the tide: but o ſide of the ſhield ride two boats, furniſhe young men, who recover him who falleth f they may. In the holydays all the ſumm youths are exerciſed in leaping, dancing, th wreſtling, caſting the ſtone, and practiſing ſhields; and the maidens trip with their ti and dance as long as they can well ſee. In every holyday before dinner, the boars pr for brawn a e ſet to fight, or elſe bulls o are baited." Such were the laudable purſ which leiſure was devoted by our forefath

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far back as 1130. Their immediate ſucceſſors breathed the ſame ſpirit. In 1222, the 6th year of Henry III. certain maſters in exerciſes of this kind made a public profeſſion of their inſtructions and diſcipline, which they imparted to thoſe who were deſirous of attaining excellence and victory in theſe honourable atchievements. About this period, perſons of rank and family introduced the play of TENNIS; and erected courts or oblong edifices for the performance of it. About 1253, the 38th of Henry III. the QUINTAN was a ſport much in faſhion in almoſt every part of the kingdom. This contrivance conſiſted of an upright poſt firmly fixed in the ground, upon the top of which was a croſs piece of wood, moveable upon a pivot; one end of which was broad like the flat part of an halberd, while at the other end was hung a bag of ſand. The exerciſe was performed on horſeback. The maſterly peformance was, when, upon the broad part being ſtruck with a lance, which ſometimes broke it, the aſſailant rode briſkly on, ſo as to avoid being ſtruck on the back by the bag of ſand, which turned round inſtantly upon the ſtroke given with a very ſwift motion. He who executed this feat in the moſt dexterous manner was declared victor, and the prize to which he became entitled was a peacock. But if, upon the lance taken, the contender miſcarried in ſtriking at the broadſide, his impotency of ſkill became the ridicule and contempt of the ſpectators. Dr Plot, in his *Nat. Hiſt. of Oxfordſh.* tells us, that this paſtime was in practice in his time at Deddington. He and Matthew Paris give ſimilar accounts. But all the manly paſtimes ſeem to have given place to one indeed no leſs manly, which was ARCHERY. This had a continuance to the reign of Charles I. It appears from 33 Hen. VIII. that by the intruſion of other pernicious games, archery had been for a long time diſuſed; to remedy which a ſtatute was made. Towards the beginning of James I.'s reign, military proweſs ſeems to have ſounded a retreat. He, to gratify the immorality of the common people, and at the ſame time to obviate his own fears upon a refuſal, published a book of ſports, in which the people had ſome time before indulged on *Sunday* evenings, that which had been lately prohibited. Theſe conſiſted of dancing, ſinging, wreſtling, morris dances, and other profanations of that day. His ſucceſſor, wiſely, in the very entrance of his reign, aboliſhed theſe ſports, which was no leſs proper, and ſhowed the diſtinguiſhed piety of the unfortunate monarch. But in this age likewiſe the manly ſports of Britons, and no other was introduced that could compenſate for them.

PASTINACA, the PARSNEP, a genus of the monogynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 34th order, *Umbellatæ*. The fruit is an elliptical compreſſed plane; the petals are involuted and unequal. There are only two ſpecies:

1. PASTINACA PANAX. Dr Woodville, in his *Medical Botany*, gives the following account of this plant. The root is perennial, thick, fleſhy, and long like the garden parſnep: the ſtalk is channelled, rough towards the bottom, and about 4 feet in height; the leaves are pinnated, conſiſting of ſeveral pairs of pinnæ, which are oblong, ſerrated, veined, and towards the baſe appear unformed on the upper ſide: the flowers are ſmall, of a yellowiſh colour, and terminate the ſtem and branches in flat umbels; the general and partial umbels are compoſed of many radii; the general and partial involucra are commonly both wanting; all the florets are fertile, and have an uniform appearance; the petals are 5, lance-ſhaped, and curled inwards; the 5 filaments are ſpreading, curved, longer than the petals, and furniſhed with roundiſh antheræ; the germen is placed below the corolla ſupporting two reflexed ſtyles, which are ſupplied with blunt ſtigmata; the fruit is elliptical, compreſſed, divided into two parts containing two flat ſeeds, encompaſſed with a narrow border. (See *Plate* CCLXIX.) It is a native of the ſouth of Europe, and flowers in June and July. This ſpecies of parſnep was cultivated in 1731 by Mr P. Miller, who obſerves, that its 'roots are large, ſweet, and accounted very nouriſhing,' therefore recommended for cultivation in kitchen-gardens. It bears the cold of our climate very well, and commonly maturates its ſeeds; and its juice here manifeſts ſome of thoſe qualities which are diſcovered in the officinal opoponax; but it is only in the warm regions of the eaſt, and where this plant is a native, that its juice concretes into this gummy reſinous drug. Opoponax is obtained by means of inciſions made at the bottom of the ſtalk of the plant, whence the juice gradually exudes; and by undergoing ſpontaneous concretion, aſſumes the appearance under which we have it imported from Turkey and the Eaſt Indies. It readily mingles with water, by triture into a milky liquor, which on ſtanding depoſits a portion of reſinous matter and becomes yellowiſh: to rectified ſpirit it yields a gold-coloured tincture, which taſtes and ſmells ſtrongly of opoponax. Water diſtilled from it is impregnated with its ſmell, but no eſſential oil is obtained on committing moderate quantities to the operation. See OPOPONAX.

2. PASTINACA SATIVA, *garden parſnep*: is an exceeding fine eſculent root. It is propagated by ſeeds ſown in Feb. or March, in a rich mellow ſoil, which muſt be deep dug, that the roots may be able to run deep without hinderance. It is common to ſow carrots at the ſame time, upon the ſame ground with the parſneps; and if the carrots are deſigned to be drawn young, there is no harm in it. The parſneps, when they are grown up a little, muſt be thinned to a foot diſtant, and kept clear of weeds. They are fineſt taſted juſt at the ſeaſon when the leaves are decayed: and ſuch as are deſirous to eat them in ſpring ſhould have them taken up in autumn, and preſerved in ſand. When the ſeeds are to be ſaved, ſome very ſtrong and fine plants ſhould be left 4 feet diſtant; and towards the end of Aug. or beginning of Sep. the ſeeds will be ripe: they muſt then be gathered, and dried on a coarſe cloth. They ſhould always be ſown the ſpring following; for they do not keep well. Hints have been given and experiments made by agricultural ſocieties, reſpecting parſneps, to raiſe them for winter food to cattle. It has long been a cuſtom in ſome parts of Brittany, to ſow parſneps in the open field for the

food

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food of cattle; as we are informed by the Transactions of a ſociety inſtituted in that province, (Vol. 1.) for the encouragement of the œconomical and commercial intereſts of their country. "It is of great importance (ſay they) that parſneps ſhould be univerſally cultivated; becauſe they afford an excellent and wholeſome food for all kinds of cattle during winter, and may be uſed to great advantage to fatten them. Hogs have no other food in all that ſeaſon, and our bullocks and oxen thrive well upon it. Cows fed with parſneps give more milk than with any other winter fodder, and that milk yields better butter than the milk of cows nouriſhed with any other ſubſtance. Horſes fatten with this food; though ſome pretend that it renders them leſs mettleſome, and hurts their legs and eyes. Cattle eat theſe roots raw, at firſt ſliced lengthwiſe; and when they begin not to reliſh them, they are cut in pieces, put into a large copper, preſſed down there, and boiled with only ſo much water as fills up the chaſms between them. They then eat them very greedily, and continue to like them."

PASTO, or ST JUAN DE PASTO, a town of Terra Firma, in Popayan; ſeated in a valley, watered by ſeveral rivers; 80 miles NNE. of Quito, according to Mr Cruttwell; but Dr Brookes makes it 120 miles N. of it, and 120 S. of Popayan. Lon. 76. 55. W. Lat. 1. 50. N.

PASTOPHORI, among the ancients, prieſts whoſe office it was to carry the images, along with the ſhrines of the gods, at ſolemn feſtivals, when they were to pray for rain, fair weather, or the like. The Greeks had a college of this order of prieſts in Sylla's time.

PASTOPHORIA, the cells or apartments near the temples where the paſtophori lived. There were ſeveral lodging rooms for the prieſts of a ſimilar kind in the temple of Jeruſalem.

* PASTOR. *n. ſ.* [*paſtor*, Latin; *paſteur*, Fr.] 1. A ſhepherd.—

The pipe on which the Aſcræan *paſtor* play'd. *Dryden.*

The *paſtor* ſhears their hoary beards. *Dryd.* 2. A clergyman who has the care of a flock; one who has ſouls to feed with ſound doctrine.—The *paſtor* maketh ſuits of the people, and they with one voice teſtify a general aſſent thereunto. *Hooker.*—The firſt branch of the great work belonging to a *paſtor* of the church, was to teach. *South.*—All biſhops are *paſtors* of the common flock. *Leſley.*—Neither was the expedient then found out of maintaining ſeparate *paſtors* out of private purſes. *Swift.*

PASTORA. See PASTARO.

(1.) * PASTORAL. *adj.* [*paſtoralis*, Latin; *paſtoral*, French.] 1. Rural; ruſtick; beſeeming ſhepherds; imitating ſhepherds.—In thoſe *paſtoral* paſtimes, a great many days were ſent to follow their flying predeceſſors. *Sidney.* 2. Relating to the care of ſouls.—Their lord and maſter taught concerning the *paſtoral* care he had over his own flock. *Hooker.*—The biſhop of Saliſbury recommendeth the tenth ſatire of Juvenal in his *paſtoral* letter. *Dryden.*

(2.) * PASTORAL. *n. ſ.* A poem in which any action or paſſion is repreſented by its effects upon a country life: or according to the common practice, in which ſpeakers take upon them the character of ſhepherds; an idyl; a bucolick. *Paſtoral* is an imitation of the action of a ſhepherd; the form of this imitation is dramatick narrative, or mixed of both; the fable ſimple, manners not too polite, nor too ruſtick. *Pope.* The beſt actors in the world, for tragedy, comedy, hiſtory, *paſtoral*. *Shak.*—There ought to the ſame difference between *paſtorals* and elegy as between the life of the country and the court the latter ſhould be ſmooth, clean, tender, paſſionate: the thoughts may be bold, more gay and more elevated than in *paſtoral*. *Walſh.*

(3.) PASTORAL LIFE may be conſidered three different views; either ſuch as it now actually is; when the ſtate of ſhepherds is reduced be a mean, ſervile, and laborious ſtate; when their employments are become diſagreeable, their ideas groſs and low; or ſuch as we ſuppoſe it once to have been, in the more and ſimple ages, when it was a life of eaſe and bundance; when the wealth of men conſiſted chiefly in flocks and herds, and the ſhepherds though unrefined in his manners, was reſpected in his ſtate: or, laſtly, ſuch as it never was, never can in reality be, when, to the eaſe, innocence, and ſimplicity of the early ages, we tempt to add the poliſhed taſte, and cultivated manners, of modern times. Of theſe three ſtates the firſt is too groſs and mean, the laſt too refined and unnatural, to be made the ground-work paſtoral poetry. Either of theſe extremes is a rock upon which the poet will ſplit, if he approach near it. We ſhall be diſguſted if he give us much of the ſervile employments and low ideas of actual peaſants, as Theocritus is cenſured for having ſometimes done; and if, like ſome of the French and Italian writers of paſtorals, he make his ſhepherds diſcourſe as if they were courtiers and ſcholars, he then retains the name only, and wants the ſpirit of paſtoral poetry.

(4.) PASTORAL MUSIC. See MUSIC, Index, § 15.

(5.) PASTORAL POETRY. See POETRY, Index, Sect. IV.

PASTRANA, a town of Spain, in New Caſtile; 10 miles SSE. of Guadalaxara, and 32 Madrid; between the Tajo and Tajuna. Lon. 46. W. Lat. 40. 26. N.

(1.) * PASTRY. *n. ſ.* [*paſtiſſarie*, Fr. *paſte*.] 1. The act of making pies.—

Let never freſh machines your *paſtry*

2. Pies or baked paſte.—

The ſeed cake, the *paſtries* and the fruit pot.

Beaſts of chaſe, or fowls of game,
In *paſtry* built, or from the ſpit, or boil'd

3. The place where paſtry is made.—

They call for dates and quinces in the

(2.) PASTRY is that branch of cookery which chiefly taken up in making pies, paſties, &c. See PASTE, § 2. Dr Cullen obſerves, paſte is very hard and indigeſtible without water; and even with it, is apt to produce burn and aceſcency. Perhaps this is owing by the burned butter, from a certain

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in the ſtomach, which occaſions all empyreumatic oils to be long retained, and ſo turn rancefcent and acid.

* PASTRY-COOK. *n. ſ.* [*paſtry* and *cook*.] One whoſe trade is to make and ſell things baked in paſte.—I wiſh you knew what my huſband has paid to the *paſtry-cooks* and confectioners. *Arbuthnot.*

* PASTURABLE. *adj.* [from *paſture*.] Fit for paſture.

* PASTURAGE. *n. ſ.* [*paſturage*, French.] 1. The buſineſs of feeding cattle.—All men would fall to *paſturage*, and none to huſbandry. *Spenſer.* 2. Lands grazed by cattle.—The riches of the country conſiſted chiefly in flocks and *paſturage*. *Addiſon.* 3. The uſe of paſture.—Cattle fatted by good *paſturage*, after violent motion, die ſuddenly. *Arbuthnot.*

(1.) * PASTURE. *n. ſ.* [*paſture*, French.] 1. Food; the act of feeding.—Unto the conſervation is required a ſolid *paſture*. *Brown.* 2. Ground on which cattle feed.—

A careleſs herd,
Full of the *paſture*, jumps along by him. *Shak.*

—When there was not room for their herds to feed together, they, by conſent, ſeparated and enlarged their *paſture*. *Locke.*—

On nature's common, far as they can ſee
Or wing, their range and *paſture*. *Thomſon.*

3. Human culture; education. Not uſed.—

From the firſt *paſtures* of our infant age,
To elder cares and man's ſeverer page. *Dryden.*

(2.) PASTURE, or } is that reſerved for feeding
PASTURE LAND, } cattle. Paſture land is of ſuch advantage to huſbandry, that many prefer it even to corn land, becauſe of the ſmall hazard and labour that attends it; and as it lays the foundation for moſt of the profit that is expected from the arable land, becauſe of the manure afforded by the cattle which are fed upon it. Paſture ground is of two ſorts; the one is meadow land, which is often overflowed; and the other is upland, which lies high and dry. The firſt of theſe will produce a much greater quantity of hay than the latter, and will not require manuring or dreſſing ſo often: but then the hay produced on the upland is much preferable to the other; as is alſo the meat which is fed in the upland more valued than that which is fatted in rich meadows; though the latter will make the fatter and larger cattle, as is ſeen by thoſe which are brought from the low rich lands in Lincolnſhire. But where people are nice in their meat, they will give a much larger price for ſuch as hath been fed on the downs, or in ſhort upland paſture, than for the other, which is much larger. Beſides this, dry paſtures have an advantage over the meadows, that they may be fed all the winter, and are not ſo ſubject to poach in wet weather; nor will there be ſo many weeds produced; which are great advantages, and in a great meaſure recompenſe for the ſmallneſs of the crop. We have already mentioned the advantages of meadow land; (See MEADOW:) therefore ſhall briefly mention ſome methods for improving upland paſture.

PASTURE LAND METHODS OF IMPROVING. The firſt improvement of upland paſture is, by fencing it, and dividing it into ſmall fields of four, five, ſix, eight, or ten, acres each, planting timber trees in the hedge-rows, which will ſcreen the graſs from the dry pinching winds of March, which will prevent the graſs from growing in large open lands; ſo that if April proves a dry month, the land produces very little hay; whereas in the ſheltered fields, the graſs will begin to grow early in March, and will cover the ground, and prevent the ſun from parching the roots of the graſs, whereby it will keep growing, ſo as to afford a tolerable crop if the ſpring ſhould prove dry. But in fencing of land the incloſure muſt not be made too ſmall, eſpecially where the hedge-rows are planted with trees; becauſe, when the trees are advanced to a conſiderable height, they will ſpread over the land; and where they are cloſe, will render the graſs ſour; ſo that inſtead of being of an advantage, it will greatly injure the paſture. The next improvement of upland paſture is, to make the turf good, where, either from the badneſs of the ſoil, or want of proper care, the graſs hath been deſtroyed by ruſhes, buſhes or mole hills. Where the ſurface of the land is clayey and cold, it may be improved by paring it off, and burning it; but if it is an hot ſandy land, then chalk, lime, marle, or clay, are very proper manures to lay upon it; but this ſhould be laid in pretty good quantities, otherwiſe it will be of little ſervice to the land. If the ground is over-run with buſhes or ruſhes, it will be of great advantage to the land to grub them up towards the latter part of ſummer, and after they are dried to burn them, and ſpread the aſhes over the ground juſt before the autumnal rains; at which time the ſurface of the land ſhould be levelled, and ſown with graſs-ſeed, which will come up in a ſhort time, and make good graſs the following ſpring. So alſo, when the land is full of mole-hills, theſe ſhould be pared off, and either burnt for the aſhes, or ſpread immediately on the ground when they are pared off, obſerving to ſow the bare patches with graſs-ſeed juſt as the autumnal rains begin. Where the land has been thus managed, it will be of great ſervice to roll the turf in the months of February and March with an heavy wood roller; always obſerving to do it in moiſt weather, that the roller may make an impreſſion; this will render the ſurface level, and make it much eaſier to mow the graſs than when the ground lies in hills; and will alſo cauſe the turf to thicken, ſo as to have what the people uſually term a *good bottom*. The graſs likwiſe will be the ſweeter for this huſbandry, and it will be a great help to deſtroy weeds. Another improvement of upland paſtures is, the feeding of them; for where this is not practiſed, the land muſt be manured at leaſt every 3d year; and where a farmer hath much arable land in his poſſeſſion, he will not care to part with his manure to the paſture. Therefore every farmer ſhould endeavour to proportion his paſture to his arable land, eſpecially where manure is ſcarce, otherwiſe he will ſoon find his error; for the paſture is the foundation of all the profit which may ariſe from the arable land. Whenever the upland paſtures are mended by manure, there ſhould be a regard had to the nature of the ſoil, and a proper ſort of manure applied: as for inſtance, all hot ſandy land

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ſhould have a cold manure; neat's dung and ſwine's dung are very proper for ſuch lands; but for cold lands, horſe dung, aſhes, and other warm manures, are proper. And when theſe are applied, it ſhould be done in autumn, before the rains have ſoaked the ground, and rendered it too ſoft to cart on; and it ſhould be carefully ſpread, breaking all the clods as ſmall as poſſible, and and then harrowed with buſhes, to let it down to the roots of the graſs. When the manure is laid on at this ſeaſon, the rains in winter will waſh down the ſalts, ſo that the following ſpring the graſs will receive the advantage of it. There ſhould alſo be great care taken to deſtroy the weeds in the paſture every ſpring and autumn: for, where this is not practiſed, the weeds will ripen their ſeeds, which will ſpread over the ground, and thereby fill it with ſuch a crop of weeds as will ſoon overbear the graſs, and deſtroy it; and it will be very difficult to root them out afterwards; eſpecially ragwort, and ſuch other weeds as have down adhering to their ſeeds. The graſſes ſown in theſe upland paſtures ſeldom degenerate, if the land is tolerably good: whereas the low meadows, which are overflowed in winter, in a few years turn to a harſh ruſhy graſs, though the upland will continue a fine ſweet graſs for many years without renewing. There is no part of huſbandry of which the farmers are in general more ignorant than that of the paſture: moſt of them ſuppoſe, that when old paſture is plowed up, it can never be brought to have a good ſward again; ſo their common method of managing their land after ploughing, is to ſow with their crop of barley ſome graſs ſeeds as they call them; that is, either the red clover, which they intend to ſtand two years after the corn is taken off the ground, or rye-graſs mixed with trefoil; but as all theſe are at moſt but biennial plants, whoſe roots decay ſoon after their ſeeds are perfected, ſo the ground, having no crop upon it, is again ploughed for corn; and this is the conſtant round which the lands are employed in by the better ſort of farmers. But whatever may have been the practice of theſe people, it is certainly poſſible to lay down lands which have been in tillage with graſs, in ſuch a manner as that the ſward ſhall be as good, if not better, than any natural graſs, and of as long duration. But this is never to be expected in the common method of ſowing a crop of corn with the graſs ſeeds; for, wherever this has been practiſed, if the corn has ſucceeded well, the graſs has been very poor and weak; ſo that if the land has not been very good, the graſs has ſcarcely been worth ſaving; for the following year it has produced but little hay, and the year after the crop is worth little, either to mow or feed. Nor can it be expected to be otherwiſe, for the ground cannot nouriſh two crops; and if there were no deficiency in the land, yet the corn, being the firſt and moſt vigorous of growth, will keep the graſs from making any conſiderable progreſs; ſo that the plants will be extremely weak, and but very thin, many of them which come up in the ſpring being deſtroyed by the corn; for whenever there are roots of corn, it cannot be expected there ſhould be any graſs. Therefore the graſs muſt be thin; and if the land is not in good heart to ſupply the graſs with nouriſhment that the roots may branch out after the corn is gone, there cannot be any conſiderable crop of clover; and as their roots are biennial, many of the ſtrongeſt plants will periſh ſoon after they are cut; and the weak plants, which had made but little progreſs before, will be the principal part of the crop for the ſucceeding year; which is many times not worth ſtanding. Therefore, when ground is laid down for graſs, there ſhould be no crop of any kind ſown with the ſeeds; or at leaſt the crop ſhould be ſown very thin, and the land ſhould be well ploughed and cleaned from weeds, otherwiſe the weeds will come up firſt, and grow ſo ſtrong as to overbear the graſs, and if they are not pulled up, will entirely ſpoil it.

(4.) PASTURE LAND, SEASON AND SEEDS PROPER FOR SOWING IN. The beſt ſeaſon to ſow the graſs ſeeds upon dry land, when no other crop is ſown with them, is about the middle of September or ſooner, if there is an appearance of rain for the ground being then warm, if there happen ſome good ſhowers of rain after the ſeed is ſown the graſs will ſoon make its appearance, and get ſufficient rooting in the ground before winter; will not be in danger of having the roots turned out of the ground by froſt, eſpecially if the ground is well rolled before the froſt comes on, which will preſs it down, and fix the earth cloſe to the roots. Where this hath not been practiſed, the froſt has often looſened the ground ſo much, as to let in the air to the roots of the graſs, and done it great damage; and this has been brought as an objection to the autumnal ſowing of graſs; but it will be found to have no weight if the above direction is practiſed: nor is there any hazard in ſowing the graſs at this ſeaſon, but that of the weather after the ſeeds are ſown; for if the ground comes up well, and the ground is well rolled by the end of October, or the beginning of November, and repeated again the beginning of March, the ſward will be cloſely joined at bottom, and a good crop of hay may be expected the ſame ſummer. But where the ground cannot be prepared for ſowing at that ſeaſon, it may be performed the middle or end of March, according as the ſeaſon is early or late; for, in backward ſpring and in cold land, we have often ſowed the graſs the middle of April with ſucceſs; but there is danger, in ſowing late, of dry weather, and eſpecially if the land is light and dry; for we have ſeen many times the whole ſurface of the ground removed by ſtrong winds at that ſeaſon; ſo that the ſeeds have been driven in heaps to one ſide of the field. Therefore, whenever the ſeeds are ſown late in the ſpring, it will be proper to roll the ground well ſoon after the ſeeds are ſown, to ſettle the ſurface, and prevent its being removed.

The ſorts of ſeeds which are the beſt for this purpoſe are, the beſt ſort of upland hay-ſeeds, taken from the cleaneſt paſtures, where there are no weeds; if this ſeed is ſifted to clean it from the duſt, three buſhels will be ſufficient to ſow an acre of land. The other ſort is the *trifolium pratenſe album*, commonly called *white Dutch clover* or *white honeyſuckle graſs*. Of this ſeed 8 lb. will be enough for one acre. The graſs ſeed ſhould be ſown firſt, and then the Dutch clover-ſeed may be afterw

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afterwards ſown; but they ſhould not be mixed, becauſe the clover ſeeds being the heavieſt will fall to the bottom, and conſequently the ground will be unequally ſown. When the ſeeds are come up, if the land ſhould produce many weeds, theſe ſhould be drawn out before they grow ſo tall as to overbear the graſs; for where this has been neglected, the weeds have taken ſuch poſſeſſion of the ground as to keep down the graſs, and have it; and when theſe weeds have been ſuffered to remain until they have ſhed their ſeeds, the land has been ſo plentifully ſtocked with them as entirely to deſtroy the graſs; therefore it is a principal care in huſbandry, never to ſuffer weeds to grow on the land. If the ground is rolled two or three times at proper diſtances after the graſs is up, it will preſs down the graſs, and cauſe it to make a thicker bottom: for, as the Dutch clover will put out roots from every joint of the branches which are near the ground, ſo, by preſſing down of the ſtalks, the roots will mat ſo cloſely together, as to form a ſward ſo thick as to cover the whole ſurface of the ground, and form a green carpet and will better reſiſt the drought. For if we examine the common paſtures in ſummer, in moſt of which there are patches of this white honeyſuckle graſs growing naturally, we ſhall find theſe patches to be the only verdure remaining in the fields. And this, the farmers in general acknowledge, is the ſweeteſt feed for all ſorts of cattle; yet they never thought of propagating it by ſeeds, nor has this been long practiſed in England. As the white clover is an abiding plant, ſo it is certainly the very beſt ſort to ſow, where paſtures are laid down to remain; for as the hayſeeds which are taken from the beſt paſtures will be compoſed of various ſorts of graſs, ſome of which may be but annual, and others biennial; ſo, when theſe go off, there will be many and large patches of ground left bare and naked, if there is not a ſufficient quantity of the white clover to ſpread over and cover the land. Therefore a good ſward can never be expected where this is not ſown; for in moſt of the natural paſtures, we find this plant makes no ſmall ſhare of the ſward; and is equally good for wet and dry land, growing naturally upon gravel and clay in moſt parts of England: which is a plain indication how eaſily this plant may be cultivated to great advantage in moſt ſorts of land throughout this kingdom. Therefore the true cauſe why the land which has been in tillage is not brought to a good turf again, is the uſual method of huſbandry, is, from the farmers not diſtinguiſhing which graſſes are annual from thoſe which are perennial: for if annual or biennial graſſes are ſown, theſe will of courſe ſoon decay; ſo that, unleſs where ſome of their ſeeds may have ripened and fallen, nothing can be expected on the land but what will naturally come up. Therefore this, with the covetous method of laying down the ground with a crop of corn, has occaſioned the general failure of increaſing the value in many parts of Britain, where it is now much more valuable than any arable land. After the ground has been ſown in the manner before directed, and brought to a good ſward, the way to preſerve it good is, by conſtantly rolling the ground with a heavy roller, every ſpring and autumn, as hath been before directed. This piece of huſbandry is rarely practiſed by farmers; but thoſe, who do, find their account in it, for it is of great benefit to the graſs. Another thing ſhould alſo be carefully performed, which is, to cut up docks, dandelion, knapweed, and all ſuch weeds, by their roots, every ſpring and autumn; this will increaſe the quantity of good graſs, and preſerve the paſtures in beauty. Dreſſing of theſe paſtures every 3d year is alſo a good piece of huſbandry; for otherwiſe it cannot be expected the ground ſhould continue to produce good crops. Beſides this, it will be neceſſary to change the ſeaſons of mowing, and not to mow the ſame ground every year, but to mow one ſeaſon and feed the next: for where the ground is every year mown, it muſt be conſtantly dreſſed, as are moſt of the graſs grounds near London, otherwiſe the ground will be ſoon exhauſted.

(1.) * *To* PASTURE. *v. a.* [from the noun.] To place in a paſture.

(2.) * *To* PASTURE. *v. n.* [from the noun.] To graze on the ground.—

Thoſe rare and ſolitary; theſe in flocks
Paſturing at once. *Milton.*

* PASTY. *n. ſ.* [*paſte*, Fr.] A pie of cruſt raiſed without a diſh.—

Of the paſte a coffin will I rear,
And make two *paſties* of your ſhameful heads.
Shak.

—If ye pinch me like a *paſty*, I can ſay no more. *Shak.*—

If you'd fright an alderman and mayor,
Within a *paſty* lodge a living hare. *King.*

Not quite a madman, though a *paſty* fell,
And much too wiſe to walk into a well. *Pope.*

(1.) * PAT. *adj.* [from *pas*, Dutch, *Skinner.*] Fit; convenient; exactly ſuitable either as to time or place. This is a low word, and ſhould not be uſed but in burleſque writings.—*Pat, pat;* and here's a marvellous convenient place for our rehearſal. *Shak. Midſ. Night's Dream.*—

Now I might do it *pat*, now he is praying.
Shak.

They never ſaw two things ſo *pat*,
In all reſpects, as this and that. *Hudibras.*

—Zuinglius dreamed of a text, which he found very *pat* to his doctrine of the Euchariſt. *Atterb.*—

He was ſorely put to't at the end of a verſe,
Becauſe he could find no word to come *pat* in.
Swift.

(2.) * PAT. *n. ſ.* [*patte*, Fr. is a foot, and thence *pat* may be a blow with the foot.] 1. A light quick blow; a tap.—The leaſt noiſe is enough to diſturb the operation of his brain; the *pat* of a ſhuttle-cock, or the creaking of a jack will do it. *Collier.* 2. Small lump of matter beat into ſhape with the hand.

* *To* PAT. *v. a.* [from the noun.] To ſtrike lightly; to tap.—Children prove, whether they can rub upon the breaſt with one hand, and *pat* upon the forehead with another, and ſtraightways they *pat* with both. *Bacon's Nat. Hiſt.*—

Gay *pats* my ſhoulder, and you vanquiſh quite.
Pope.

* PATACHE. *n. ſ.* A ſmall ſhip. *Ainſworth.*

* PATACOON. *n. ſ.* A Spaniſh coin worth four ſhillings and eight pence Engliſh. *Ainſworth.*

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PATÆCI, in mythology, images of gods which the Phœnicians carried on the prows of their gallies. Herodotus, lib. iv. calls them πάτηκοι. The word is Phœnician, and derived from *pethica*, i. e. *titulus*, a title, or mark of dignity. See Bochart's Chanaan, lib. ii. cap. 3. But Scaliger does not agree. Morin derives it from πίθηκος, *monkey*, this animal having been an object of worship among the Egyptians, and hence might have been honoured by their neighbours. Mr Elsner has observed, that Herodotus does not call the patæci *gods*; but that they obtained this dignity from the liberality of Hesychius and Suidas, and other ancient lexicographers, who place them at the stern of ships; whereas Herodotus placed them at the prow. Scaliger, Bochart, and Selden, have taken some pains about this subject. Mr Morin has also given us a learned dissertation on this head in the *Memoires de l'Acad. des Inscript. & Belles Lettres*, tom. i.; but Mr Elsner thinks it wants evidence.

PATAGONIA, a country of South America, comprehending all that country from Chili and Paraguay to the utmost extremity of S. America; that is, from 35° almost to 54° of latitude: being surrounded by Chili, Paraguay, the South and North Seas, and the Straits of Magellan, which separate it from *Terra del Fuego*, and extend about 116 leagues in length from sea to sea, but only from half a league to 3 or 4 in breadth. This country had the name of TERRA MAGELLANICA, from Magellan See MAGELLANIA. The lofty mountains of ANDES, which are covered with snow a great part of the year, crossing the country from N. to S. the air is much colder than in the N. under the same latitude. Towards the N. it is covered with wood, but on the S. not a single tree fit for any mechanical purpose is to be seen: yet there is good pasture, and incredible numbers of wild horned cattle and horses. The E. coast is mostly low land, with few or no good harbours; one of the best is Port St Julian. Patagonia is inhabited by a variety of Indian tribes; as the PATAGONS, from which the country takes its name; the *Pampas*, the *Cossares*, &c. of whom we know very little. From the accounts of Com. Byron and his crew, and the testimonies of other navigators, some of them are of a gigantic stature, and clothed with skins; others go almost quite naked, notwithstanding the inclemency of the climate. Some of them also, who live about the Straits, are perfect savages: but those with whom Com. Byron and his people conversed, were gentle and humane. They live on fish and game, and what the earth produces spontaneously. On the coasts of Patagonia lie a great number of islands. On the west coasts are the islands Madre de Dios, Santa Trinidad, Santa Cruz, the isles of the Chunians and Huillans, the Sarmientos, and many others; to the number of 80 in all. Of those on the S. coast, the most considerable are TERRA DEL FUEGO, and STATEN LAND. See these articles. A vast deal has been said respecting the stature of the Patagonians, by people of different nations, and on various occasions. Mr Charles Clarke, who was on board Byron's ship in 1764, says that some of them are certainly *nine feet*, if they do not exceed it. Captain Wallis, on the other hand, who went out to the Straits of Magellan after Byron's return, found that the tallest man among them measured only 6 feet 7 inches high; several were within an inch or two as tall; but the ordinary size was from 5 feet 10, to 6 feet. All agree however, that the hair is black, and harsh like bristles; that they are of a dark copper colour that their features are rather handsome than ugly that they clothe themselves with skins; that they paint themselves variously; and there is reason to suspect, that by that variety they distinguish the tribes. One remarkable observation made by the voyagers is, that the Patagonians could repeat whole sentences after our men, more distinctly than almost any European foreigner of what nation soever. Another very remarkable particularity is, that they had none of the characters of a ferocious people; there was no offensive weapon among them, except the scimitar, and a kind of sling, which they use in hunting, consisting of two round stones of about a pound weight each, connected together by a thong. These stones were fastened to the extremities of the thong; and when they threw them, they held one stone in the hand, and swung the other about the head.

PATAGONIANS, the natives of PATAGONIA.

PATAGONS, a nation of Patagonia.

PATAGONULA, in botany, a genus of the monogynia order, and pentandria class of plants in the natural method, ranking in the 41st order, *Asperifoliæ*. The characters are these: the cup is an extremely small perianthium, divided into five segments, and remains after the flower is fallen. the flower consists of a single petal, with almost no tube, the margin of which is divided into five acute oval segments; the stamina are five filaments of the length of the flower; the antheræ simple; the germen of the pistil is oval and pointed; the style is slender and slightly bifid, its ramifications are also bifid; this is of the same length with the stamina, and remains when the flower is fallen; the stigmata are simple; the fruit is an oval pointed capsule, standing on a large cup, made of five long segments emarginated or rimose round their edges; the seeds of this plant are unknown; but the construction of the cup on which the capsule stands, is alone a sufficient distinction for this genus. There is but one species.

PATAIA, a town of Hungary, 7 m. N. of Colocza.

PATAK, a town of Hungary, on the Latorza, 25 m. SE. of Caschea, and 44 WSW. of Munc

PATALA, or PATALE, } in ancient geography, an island and sea port at the mouth of the Indus. *Plin.* ii, 73. *Curt.* ix, 7.

(1.) PATAN, a kingdom of Asia, in the East Indies, and peninsula of Malacca, on the E. coast between the kingdoms of Siam and Paha. The inhabitants are partly Mahometans and partly Gentoos; but they are very voluptuous. The air is wholesome, though very hot; and they have two seasons but the winter and summer. The former is more properly the rainy season; and happens in our Nov. Dec. and Jan. The woods are full of elephants and wild animals. Some voyagers pretend that this country is governed by a queen who never marries, but may have as many gallants as she pleases. They trade with the Chinese.

(2.) PATAN, the capital of the above kingdom has a good harbour, and is one of the stro-

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ries in that country. It is very little known. Lon. 109. c. E. Lat. 27. 30. N.

PATAPASCO, or PATAPSCO, a navigable river of Maryland, which rises in York county, Pennsylvania, and after running S. and SE. falls into Chesapeak Bay, 3 m. S. of Baltimore.

PATARA, the capital of Lycia, E. of the mouth of the Xanthus; famous for a temple and oracle of Apollo. (*Livy, Mela.*) For the six winter months, Apollo gave answers at Patara; and for the six summer at Delos: (*Virgil, Servius:*) these are the *Lucæ Sortes* of Virgil. The town was situated in a peninsula, called *Lyciorum Chersonesus*. (*Stephanus.*) Ac. Acts, xxi, 1.

PA-TA-RÆ-US, or PA-TA-REUS, a surname of Apollo, from PATARA. *Hor. Livy.*

PATAS, or *Caxamarquilla*, a mountainous province of Peru, in Truxillo, remarkable for its gold mines.

PATATE, a town of Peru, in Quito.

PATAVINI, the ancient inhabitants of PATAVIUM, or PADUA; of whom LIVY was the most famous.

PATAVINITY, *n. s.* among critics, a peculiarity of Livy's diction; from *Patavium*, the place of his nativity; but wherein this patavinity consists, they are by no means agreed. See LIVIUS, No. 1. In all probability, it is one of those delicacies that are lost in a dead language. Dan. Georg. Morhof published a treatise *De Patavinitate Liviana*, at Kiel, in 1685, wherein he explains the urbanity and peregrinity of the Latin tongue.

PATAVIRCA, a town of Peru, in Guarmey, between Paita and Lima; 67 miles N. of Lima.

PATAVIUM, a town of Gallia Transpadana, on the left or N. bank of the Medoacus Minor; founded by Antenor the Trojan: (*Mela, Virgil, Livy.*) Now called PADUA.

PATAY, a town of France, in the dep. of the Loiret, and late prov. of Orleannois; remarkable for the defeat of the English in 1429, where JOAN of Arc did wonders. It is 12 miles NNW. of Orleans, and 18 N. of Beaugency. Lon. 1. 43. E. Lat. 48. 5. N.

PATAZ, or PATAS. See PATAS.

* PATCH. *n. s.* [*pezzo*, Ital.] 1. A piece sewed on to cover a hole.—

Patches set upon a little breach,
Discredit more in hiding of the flaw,
Than did the flaw before it was so patch'd. *Shak.*
If the shoe be ript, or *patches* put;
He's wounded! see the plaister on his foot.
Dryden.

2. A piece inserted in mosaick or variegated work.—They suffer their minds to appear in a pie-bald livery of coarse *patches* and borrowed shreds. *Locke.*

3. A small spot of black silk put on the face.—

Madam nature wears black *patches* too. *Cleav.*
If to every common funeral,
By your eyes martyr'd, such grace were allow'd,
Your face wou'd wear not *patches*, but a cloud.
Suckling.

—Their *patches* were placed in different situations as party signals to distinguish friends from foes. *Addis.*—

Thrice from my trembling hand the *patch*-box fell! *Pope.*

4. A small particle; a parcel of land.—

We go to gain a little *patch* of ground,
That hath in it no profit but the name. *Shak.*

5. A paltry fellow. Obsolete.—

What a py'd ninny's this? thou scurvy *patch!* *Shak.*

* *To* PATCH. *v. n.* [*pudizer*, Danish; *pezzare*, Italian.] 1. To cover with a piece sewed on.—They would think themselves miserable in a *patched* coat, and yet their minds appear in a pie-bald livery of coarse patches and borrowed shreds. *Locke.* 2. To decorate the face with small spots of black silk.—In the middle boxes, were several ladies who *patched* both sides of their faces. *Spect.*

We begg'd her but to *patch* her face,
She never hit one proper place. *Swift.*

3. To mend clumsily; to mend so as that the original strength or beauty is lost.—

Any thing mended, is but *patch'd*. *Shak.*
Patch an old building, not a new create. *Dryd.*

—Broken limbs, common prudence sends us to the surgeons to piece and *patch up*. *L'Estrange.* 4. To make up of shreds or different pieces. Sometimes with *up* emphatical.—If we seek to judge of those times, which the scriptures set us down without error, by the reigns of the Assyrian princes, we shall but *patch up* the story at adventure. *Raleigh's History.*—

His glorious end was a *patch'd* work of fate,
Ill sorted with a soft effeminate life. *Dryden.*

—There is that visible symmetry in a human body, as gives an intrinsick evidence, that it was not formed successively and *patched up* by piece-meal. *Bentley.*—Enlarging an author's sense, and building fancies of our own upon his foundation, we may call paraphrasing; but more properly changing, adding, *patching*, piecing. *Felton.*

* PATCHER. *n. s.* [from *patch.*] One that patches; a botcher.

* PATCHERY. *n. s.* [from *patch.*] Botchery; bungling work. Forgery. A word not in use.—

You hear him cogg, see him dissemble,
Know his gross *patchery*, love him, and feed him,
Yet remain assur'd that he's a made-up villain.
Shak.

* PATCHWORK. *n. s.* [*patch* and *work.*] Work made by sewing small pieces of different colours interchangeably together.—When my cloaths were finished, they looked like *patchwork*. *Swift.*—Whoever only reads to transcribe shining remarks, without entering into the genius and spirit of the author, will be apt to be misled out of the regular way of thinking; and all the product of all this will be found a manifest incoherent piece of *patchwork*. *Swift.*—

Foreign her air, her robe's discordant pride
In *patchwork* flutt'ring. *Pope.*
To *patch-work* learn'd quotations are allied,
Both serve to make our poverty our pride.
Young.

(1.) * PATE. *n. s.* [This is derived by *Skinner* from *tête*, Fr.] The head. Now commonly used in contempt or ridicule, but anciently in serious language.—

Here take thy lover's token on thy *pate*. *Spens.*
By customs and covetous *pates*,
By gaps and opening of gates. *Tusser.*
He is a traitor, set him to the tower,
And crop away that factious *pate* of his. *Shak.*

Steal

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Steal by line and level is an excellent pass of *pate*. *Shak.*

That broker that still breaks the *pate* of faith,
That daily breakvow. *Shak.*

This man's a flatterer. The learned *pate*
Ducks to the golden fool. *Shak.*

Thank your gentler fate,
That, for a bruis'd or broken *pate*,
Has freed you from those knobs that grow
Much harder on the married brow. *Hudibras.*

—Many will rather chuse to neglect their duty, than to get a broken *pate* in the church's service. *South.*—If any young novice happens into the neighbourhood of flatterers, presently they are plying his full purse and empty *pate* with addresses suitable to his vanity. *South.*

(2.) PATE, in fortification, a kind of platform, resembling what is called an *horse's shoe*.

(3.) PATE, in geography, an island of France, in the Gironde, near Blaye.

* PATED. *adj.* [from *pate*.] Having a pate. It is used only in composition: as long-*pated* or cunning; shallow-*pated* or foolish.

PATEE, *n. s.* or PATTEE, in heraldry, a cross, small in the centre, and widening to the extremities, which are very broad.

* PATEFACTION. *n. s.* [*patefactio*, Latin.] Act or state of opening. *Ainsworth.*

PATEHUCA, a town of Mexico, near a silver mine. Lon. 99. 55. E. Lat. 22. 0. N.

PATELI, or PUTALA, a town of Thibet, in Lassa, near a mountain, on which is seated the temple of palace of the Grand Lama. (See LAMA, N° 1.) It is 3 miles E. of Lassa, and 272 NNW. of Ghergong.

(I.) PATELLA, the KNEE-PAN. See ANATOMY, *Index*.

(II.) PATELLA, in zoology, the LIMPET, a genus of insects belonging to the order of vermes testacea; the animal is of the snail kind. The shells are of that class which is called *univalves*; they have no *contour*, and are in the form of little pointed cones. They are always attached to some hard body. Their summit is sometimes acute, sometimes obtuse, flatted, turned back, or perforated. The rock or other hard body to which they are always found adhering, serves as a kind of second or under shell to preserve them from injury; and for this reason Aldrovandus and Rondelet have classed them among the bivalves; but in this error they have not been followed. The distinguishing mark or characteristic of the lepas is to have but one convex shell, which adheres by its rim to a rock, or some other hard substance. There are 36 species of this genus, which are principally distinguished by peculiarities in their shells. The limpet, *fig.* 1. *Plate* CCLX. has large yellow furrows and ridges from the centre to the circumference, which is indented; the eye is perfectly white, and shaped like a nipple. *Fig.* 2. is perfectly smooth, but radiated with brown streaks, and perforated in the summit. *Fig.* 3. is ribbed, and indented at the circumference; its coat is spotted with brown, in a zig-zag form, and its eye is of a ruby colour. *Fig.* 4. is a small brown shell, the ribs or striæ of which are armed with small white points. *Fig.* 5. is striated with radii, reaching from the eye to the circumference, which are crossed by other streaks nearly parallel to t circumference; it is of the usual colour, and eye is perforated. *Fig.* 6. This is white, sha something like an hand-bell, and has within a tuberance resembling a clapper. *Fig.* 7. is ven-sided limpet, divided at each angle by from the summit, which form a star on a ground, variegated with black spots. *Fig.* small ribbed shell, of a brown colour and it has a chamber, and a beak-fashioned eye ced at one of its extremities. *Fig.* 9. is th shell of this species: its size, the fine mot pearl colour on the inside, and the beauti red spots without, which have the appea tortoise-shell, give it the pre-eminence over thers. It is called the *Tortoise-shell buckler*. bius Columna distinguishes 4 species of the or limpets:

1. PATELLA LEPAS AGREA, or SYLVESTRIS, a small shell, irregularly oval, of an ash colo marked with radii and zones crossing each oth and perforated at the top by an aperture wh serves the fish for a vent.

2. PATELLA LEPAS MAJOR, or EXOTICA, co from Spain; the shell is hard, thick, and ri in angles, and the rim is denticulated.

3. PATELLA LEPAS REGALIS, so called as ing thought fit for a *king's* table, is of a mo of-pearl colour within, and is ribbed and g ted in many places: these shells have bee on the back of the sea-tortoise, or turtle; a large pinna marina.

4. PATELLA LEPAS VULGARIS, very c at Naples, is of an oval figure and ash-col

(III.) PATELLA, in zoology, or entom is also a name given by Lister and others to husk or shell, found on the bark of the plum, rose, and other trees, containing within, and useful in colouring. The are of the form of globes, except when here to the tree, and are for the most shining chesnut colour. The husk itself very fine crimson colour on paper, and wa is found a white maggot which is of no va this, in time, hatches into a very small but b tiful bee. The size of this bee is about half of an ant. They have a sting like bees, and spots in a triangle on the forehead, supposed eyes. They are black, and have a large whitish or pale yellow spot on the back. upper pair of wings are shaded and spotted the under pair are clear. It might be worth to try whether the colour they yield might useful. The deepest coloured husks a finest and deepest purple: they must be use the animal in them is in the maggot for when it is changed into the bee state the dry and colourless. Lister, who first o these patellæ, went so far on comparing with the common kermes, as to assert th were of the same nature with that produ but his account of their being the workman of a bee, to preserve her young maggot in, is agreeable to the true history of the kermes; that is an insect of a very peculiar kind. It is sible that these patellæ may be the same gen animals with the kermes, but then it produc young within this shell or husk, which is no

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Fig 1.

PATELLA.

Fig. 3.

Plate CCLXX.

Fig. 2.

Fig. 5.

Fig. 4.

Fig. 7.

Psittacus Guineensis.

Fig. 6.

Pelicanus.

Fig. 9.

Psittacus Pullarius.

Pavo cristatus
or Peacock.

Penelope
or horned pheasant.

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than the ſkin of the body of the mother animal; but as there are many flies whoſe worms or maggots are lodged in the bodies of other animals, perhaps this little bee may lay its egg in the body of the proper inſect, and the maggot hatched from that egg may eat up the proper progeny, and, undergoing its own natural changes there, iſſue out at length in form of the bee. This may have been the caſe in ſome few which Dr Liſter examined; and he may have been miſled by this to ſuppoſe it the natural change of the inſect.

(IV.) PATELLA FERA, *the wild limpet*, a name very improperly applied by Rondilitius and Aldrovand to the *aures marinæ*, or *conchæ veneris*, which certainly are not of the patella kind.

* PATEN. *n. ſ.* [*patina*, Lat.] A plate. Not in uſe.—

The floor of heav'n
Is thick inlaid with *patens* of bright gold. *Shak.*

PATENODE, a town of Ceylon, near the E. coaſt, 78 miles E. of Candy.

(1.) * PATENT. *adj.* [*patens*, Lat. *patent*, Fr.] 1. Open to the peruſal of all: as letters *patent*.—In Ireland, where the king diſpoſes of biſhopricks merely by his letters *patent*, without any Congé d'Eſtre. *Lefley*. 2. Something appropriated by letters patent.—Madder, in king Charles the firſt's time, was made a *patent* commodity. *Mort. Huſb.*

(2.) * PATENT. *n. ſ.* A writ conferring ſome exclusive right or privilege.—If you are ſo fond over her iniquity, give her a *patent* to offend. *Shak.*—

So will I grow, ſo live, ſo die,
Ere I will yield my virgin *patent* up. *Shak.*

—We are cenſured as obſtinate, in not complying with a royal *patent*. *Swift.*

(3.) PATENT LEAF, in botany, a leaf that ſtands almoſt at right angles with the ſtalk.

(4.) PATENT LETTERS. See LETTER, § 8.

* PATENTEE. *n. ſ.* [from *patent*.] One who has a patent.—If his tenant and *patentee* diſpoſe of his gift, without his kingly conſent, the lands will revert to the king. *Bacon.*—In the patent granted to lord Dartmouth, the ſecurities obliged the *patentee* to receive his money back upon every demand. *Swift.*

PATEQUEMADE, a town in the iſland of Cuba, 20 miles E. of Villa del Principe.

(1.) PATER [Lat. *i. e.* Father.] is variouſly uſed. See § 4, 6; and PATRES.

(2.) PATER, Paul, a learned Hungarian, born at Schemerſdorf, in 1656; and driven from his country when young, on account of his being a proteſtant. The duke of Wolfenbuttel made him his librarian, and he became profeſſor of mathematics in the college of Dantzic; where he died in 1724. He publiſhed many works on literature and philoſophy.

(3.) PATER, in geography. See PADER.

(4.) * PATER NOSTER. *n. ſ.* [Latin.] The Lord's prayer.

(5.) PATER NOSTER, in geography, iſlands of Aſia, in the Eaſt Indian ſea, ſo called becauſe of the great number of rocks, which ſailors have likened to the beads with which the Papiſts tell their paternoſter. They abound in corn and fruits, and are very populous.

(6.) PATER PATRATUS, the firſt and principal herald in the college of heralds, called *Feciales*. Some ſay he was a conſtant officer and perpetual chief of that body; and others ſuppoſe him to have been a temporary miniſter, elected upon account of making peace or denouncing war, which were both done by him. See FECIALES.

(7.) PATER, St, a town of France, in the dep. of the Sarte, 3 miles S. of Alençon.

(1.) PATERA, in antiquity, [from *Pateo*, Lat. to be open,] a large open goblet or veſſel, uſed by the Romans in their ſacrifices; wherein they offered their conſecrated meats to the gods, and wherewith they made libations. See LIBATION, and SACRIFICE. On medals the patera is ſeen in the hands of ſeveral deities; and often in thoſe of princes, to mark the ſacerdotal authority joined with the imperial, &c. F. Joubert obſerves, that beſides the patera, there is frequently an altar upon which the patera ſeems to be pouring its contents. The patera was of gold, ſilver, marble, braſs, glaſs, or earth; and they uſed to incloſe it in urns with the aſhes of the deceaſed, after it had ſerved for the libations of the wine and liquors at the funeral. The patera is an ornament in architecture, frequently ſeen in the Doric freeze, and the tympans of arches; and they are ſometimes uſed by themſelves, to ornament a ſpace. In this caſe it is common to hang a ſtring of huſks or drapery over them: ſometimes they are much enriched with foliage, and have a maſk or a head in the centre.

(2.) PATERA, the modern name of PATARA.

PATERCULUS, Caius VELLEIUS, an ancient Roman hiſtorian, who flouriſhed in the reign of Tiberius Cæſar, was born A. U. C. 735. His anceſtors were illuſtrious for merits and offices. His grand-father eſpouſed the party of Tiberius Nero, the emperor's father; but being old and infirm, and not able to accompany Nero when he retired from Naples, he killed himſelf. His father was a ſoldier of rank, and ſo was Paterculus. He was a military tribune when Caius Cæſar, a grandſon of Auguſtus, had an interview with the king of the Parthians, in an iſland of the Euphrates, in 753. He commanded the cavalry in Germany under Tiberius; and accompanied that prince for 9 years ſucceſſively in all his expeditions. He received honourable rewards from him; but was preferred to no higher dignity than the prætorſhip. The praiſes he beſtows upon Sejanus make it probable that he was a friend of this favourite, and was involved in his ruin. His death is placed by Mr Dodwell in A. U. C. 784, when he was in his 50th year. He wrote an *Abridgement of the Roman Hiſtory* in two books, in which many particulars are related that are nowhere elſe to be found; which makes it the more valuable. It was firſt publiſhed, from the MS. of Morhac, by Rhenanus, at Baſil in 1520: afterwards by Lipſius at Leyden in 1581; by Gerard Voſſius in 1639; by Boeclerus at Straſburg in 1642; by Thyſius and others; and, laſtly, by Peter Burman at Leyden, 1719, in 8vo. To the Oxford edition in 1693, 8vo, were prefixed the *Annales Velleiani* of Mr Dodwell, which ſhow a great knowledge of antiquity. Lipſius cenſures him ſeveraly for his praiſing Tiberius.

PATERNA, a town of Spain, in New Caſtile; 3 miles E. of Alcaraz.

* PATERNAL. *adj.* [*paternus*, Lat. *paternel*, Fr.] 1. Fatherly;

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1. Fatherly; having the relation of a father; pertaining to a father.—

I disclaim all my *paternal* care,

Propinquity and property of blood. *K. Lear.*

—Grace signifies the *paternal* favour of God to his elect children. *Hammond.*—Admonitions fraternal or *paternal* of his fellow christians. *Hammond.*—

They spend their days in joy unblam'd; and dwell

Long time in peace, by families and tribes,

Under *paternal* rule. *Milton's Par. Lost.*

2. Hereditary; received in succession from one's father.—

Men plough with oxen of their own

Their small *paternal* field of corn. *Dryd.*

—He held his *paternal* estate from the bounty of the conqueror. *Dryd.*—

Retreat betimes

To thy *paternal* seat, the Sabine field. *Addison.*

PATERNE, St, a town of France, in the department of Morbihan, and district of Vannes.

PATERNIAN, St, a town of Germany, in Carinthia; 6 miles ESE. of Spital.

* PATERNITY. *n. f.* [from *paternus*, Lat. *paternite*, Fr.] Fathership; the relation of a father. —The world, while it had scarcity of people, underwent no other dominion than *paternity* and eldership. *Raleigh.*—The *paternity* and filiation leave very sensible impressions. *Arbuthnot.*—This origination in the divine *paternity*, as bishop Pearson speaks, hath antiently been looked upon as the assertion of the unity. *Waterland.*

PATERNO, a town of Sicily, in the valley of Demona, built on the ruins of the ancient Hybla; 15 miles W. of Catania. See Hybla, N° 1.

(1.) PATERSON, the rev. Alexander, a Scottish clergyman of uncommon abilities, born at Skipmyre, in the parish of Trailflat, now annexed to that of Tinwald, in Dumfries-shire, about 1660. He not only suggested the plan of the Bank of England, but proposed a national object of still greater importance to Great Britain, had it been carried into execution, by the settlement of a Scottish colony at Darien. The history of that settlement, the luminous ideas conceived by Paterson, the shameful opposition it met with from a mean spirit of commercial jealousy, and the consequent destruction of the infant colony, with Sir John Dalrymple's judicious remarks on the whole infamous transaction, are inserted under the article Darien, N° I, § i, 1—5. The rev. James Laurie, minister of Tinwald says, Paterson was not an *obscure* Scotchman, as a certain writer stiles him; he more than once represented Dumfries, &c. in the Scotch Parliament. The same house gave birth to his grand-nephew, Dr James Mounsey, first physician for many years to the empress of Russia. The widow, who now enjoys the farm, is sister to Dr John Rodgerson, who succeeded Dr Mounsey, as first physician to the empress." *Sir J. Sinclair's Stat. Acc.* Vol. I. p. 165.

(2.) Paterson, Samuel, was born in 1725. His father died when he was very young, and his guardian failing, he lost his fortune. Being maimed, and not having been brought up to any profession, he chose that of a bookseller, in which he was unsuccessful. He then commenced auctioneer, and after struggling with much distress, appointed librarian to the Marquis of Launsd He died 29th Oct. 1802. He wrote and pub ed 1. *A dissertation on the Equestrian figure of George and of the Garter; by Dr Pertingall*, 17 2. *The travels of Caiat Junior*, 1767: 3. *Jan na, or a book of scraps*: 4. *The Templar*, a we paper: and 5. *Speculations on law and lawyers*; what rendered him chiefly famous was his t at drawing up catalogues. The catalogues w he made of many valuable libraries, being *raisonnée*, sell at high prices.

(3.) Paterson, in geography. See Patte

(1.) * PATH. *n. f.* [*path*, Saxon.] Way; track. In conversation it is used of a narrow to be passed on foot; but in solemn lang means any passage.—For darkness, where place thereof,—that thou shouldst know the to the house thereof. *Job.* xxxviii. 20.—

On the glad earth the golden age renew And thy great father's *path* to heav'n pursue. The dewy *paths* of meadows we will t

—There is but one road by which to clim and they have a very severe law against an enters the town by another *path*. *Addison on*

(2.) Path, in mechanics, is the course or marked out or run over by a body in motio

(3.) Paths of the Moon and Pla See Astronomy, *Index*.

(1.) PATHETIC, *adj.* relating to the pa It comes from the Greek, παθος, *passion* or e See Passion.

(2.) Pathetic, or } in music, somethin (2.) PATHETICAL, } moving, or expres passionate; capable of exciting pity, comp anger, or other passions. The chromatic with its greater and lesser semitones, either ding or descending, is very proper for the tic; as is also an artful management of di with a variety of motions, now brisk, n guishing, now swift, now slow.

(3.) * Pathetical. Pathetick. *a.* [πα *pathetique*, French.] Affecting the passions onate; moving.—

His page that handful of wit;

'Tis most *pathetical*.

—How *pathetick* is that expostulation of Job for the trial of his patience, he was made upon himself in this deplorable condition. *tor.*—Tully considered the dispositions o ecre and less mercurial nation, by dwelling *pathetick* part. *Swift.*—

While thus *pathetick* to the prince he From the brave youth the streaming broke.

* PATHETICALLY. *adv.* [from *pat* In such a manner as may strike the pas These reasons, so *pathetically* urged and so bly raised by the prosopopœia of nature s to her children with so much authority, the pains I have taken. *Dryden.*

* PATHETICALNESS. *n. f.* [from *pa* Quality of being pathetick; quality of mo passions.

(1.) PATH-HEAD, a considerable vi Scotland, in Fifeshire, and parish of Dysar but adjacent to Kirkcaldy; long famou

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manufacture of nails. It is named from its situation, at the head of a steep ascent called *the Path* on the side of a hill facing the Frith of Forth. It is divided into *Path-head Proper*, or *Dunikeer*, and *Starlarton*. The latter has been mostly built within these 50 years. The total population of both, in 1792, was 2089; increase since 1755, 982. The number of houses was 320; and families 581. The nail manufacture still brings in above L.1000 a-year. Weaving and other manufactures are also carried on; and a fair for woollen and linen cloths is held in August.

(2.) PATH-HEAD, a village of Mid-Lothian, a mile S. of Dalkeith.

* PATHLESS. *adj.* [from *path*.] Untrodden; not marked with paths.—

Ask thou the citizens of *pathless* woods,
What cut the air with wings? *Sandys.*
Like one that had been led astray
Through the heav'ns wide *pathless* way. *Milton.*
In fortune's empire blindly thus we go,
And wander after *pathless* destiny. *Dryden.*
Through mists obscure, the wings her tedious way,
And from the summit of a *pathless* coast
Sees infinite, and in that sight is lost. *Prior.*

(1.) * PATHOGNOMONICK. *adj.* [παθογνωμονικος, παθος and γινωσκω.] Such signs of a disease as are inseparable, designing the essence or real nature of a disease; not symptomatick. *Quincy.*—He has the true *pathognomonick* sign of love, jealousy. *Arbuthnot.*

(2.) PATHOGNOMONIC SIGNS. See MEDICINE, *Index.*

* PATHOLOGICAL. *adj.* [*pathologique*, Fr. from *pathology*.] Relating to the tokens or discoverable effects of a distemper.

* PATHOLOGIST. *n. s.* [παθος and λογος.] One who treats of pathology.

(1.) * PATHOLOGY. *n. s.* [παθος and λογος; *pathologie*, Fr.] That part of medicine which relates to the distempers, with their differences, causes and effects, incident to the human body. *Quincy.*

(2.) PATHOLOGY. See MEDICINE.

PATHOS, [Gr. πατος.] literally signifies passion, and in poetry is applied to the expression of it.

PATHRI. See PARTHIA, § 3.

PATHROS. a city and canton of Egypt, which the prophets Jeremiah and Ezekiel mention; Jer. xliv. 1. 15. Ezek. xxix. 14. xxx. 14. We are uncertain of its situation. Pliny and Ptolemy call it PHATURIS; and it appears to have been in Upper Egypt. Isaiah (xii. 2.) calls it Pathros; as it is the country of the Pathrusim, the posterity of Mizraim, mentioned by Moses, Gen. x. 14. whom threatens them with an entire ruin. The Jews returned thither notwithstanding the remonstrances of Jeremiah, but Isaiah foretold their return.

PATHRUSIM, a son of Mizraim, supposed to be the progenitor of the *Parthians*. See PARTHIA, § 3.

* PATHWAY. *n. s.* [*path* and *way*.] A road; in common acceptation, a narrow way to be passed on foot.—

Alas, that love, whose view is muffl'd still,
Should without eyes see *pathways* to his ill. *Shak.*

—In the way of righteousness is life, and in the *pathway* thereof there is no death. *Prov.* xii. 28.—

When in the middle *pathway* basks the snake;
O lead me, guard me from the sultry hours. *Gay.*

PATI. See PATTA, and PATTI.

* PATIBLE. *adj.* [from *patior*, Lat.] Sufferable; tolerable. *Dict.*

* PATIBULARY. *adj.* [*patibulaire*, Fr. from *patibulum*, Latin.] Belonging to the gallows. *Dict.*

(1.) * PATIENCE. *n. s.* [*patience*, French; *patientia*, Latin.] 1. The power of suffering; calm endurance of pain or labour.—

Devotion, *patience*, courage, fortitude;
I have no relish of them. *Shak.*

—Christian fortitude and *patience* have their opportunity in times of affliction and persecution. *Spratt.*—

Patience of toil, and love of virtue fails. *Prior.*

2. The quality of expecting long without rage or discontent; long-suffering.—Necessary *patience* in seeking the Lord, is better than he that leadeth his life without a guide. *Ecclus.* xxi. 32.—Have *patience* with me, and I will pay thee all. *Matthew.* 3. Perseverance; continuance of labour.—

He learnt with *patience*, and with meekness taught. *Harte.*

4. The quality of bearing offences without revenge or anger.—

His rage was kindled, and his *patience* gone. *Harte.*

5. Sufferance; permission.—By their *patience*, the apostles preached as well when they wrote, as when they spake the gospel. *Hooker.* 6. An herb. A species of dock.—*Patience*, an herb, makes a good boiled sallad. *Mortimer.*

(2.) PATIENCE is that calm and unruffled temper, with which a good man bears the evils of life, from a conviction that they are at least permitted, if not sent, by the best of Beings, who makes all things work together for good to those who love and fear him.

(3.) PATIENCE, in botany, (§ 1, *Def.* 6.) See RUMEX, N° 4.

(4.) PATIENCE, in geography, an island near Rhode Island, in Narraganset Bay, SE. of Warwick Neck: 2 miles long, and 1 broad.

(1.) * PATIENT. *adj.* [*patient*, Fr. *patiens*, Lat.] 1. Having the quality of enduring: with *of* before the thing endured.—To this outward structure was joined strength of constitution, *patient of* severest toil and hardship. *Fell.*—Wheat, which is the best sort of grain, of which the purest bread is made, is *patient of* heat and cold. *Ray.* 2. Calm under pain or affliction.—

Be *patient*, and I will stay. *Shak.*
Griev'd, but unmov'd, and *patient of* your scorn,
I die. *Dryden.*

3. Not revengeful against injuries. 4. Not easily provoked.—Be *patient* toward all men. 1 *Thess.* v. 14. 5. Persevering; calmly diligent.—Whatever I have done is due to *patient* thought. *Newton.* 6. Not hasty; not viciously eager or impetuous.—

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Not *patient* to expect the turns of fate,
They open'd camps. *Prior.*

(2.) * PATIENT. *n. f.* [*patient*, Fr.] 1. That which receives impreſſions from external agents.—Malice is a paſſion ſo impetuous and precipitate, that it often involves the agent and the *patient*. *Gov. of the Tongue.*—

To proper *patients* he kind agents brings.
Creech.

—When a ſmith with a hammer ſtrikes a piece of iron, the iron is the *patient* or the ſubject of paſſion, in a philoſophical ſenſe, becauſe it receives the operation of the agent. *Watts.* 2. A perſon diſeaſed. It is commonly uſed of the relation between the ſick and the phyſician.—You deal with me like a phyſician, that ſeeing his *patient* in a peſtilent fever, ſhould chide inſtead of adminiſtring help. *Sidney.*—Through ignorance of the diſeaſe, inſtead of good, he worketh hurt, and out of one evil throweth the *patient* into many miſeries. *Spenſer.*—A phyſician uſes various methods for the recovery of ſick perſons; and though all of them are diſagreeable, his *patients* are never angry. *Addiſon.* 3. It is ſometimes, but rarely, uſed abſolutely for a ſick perſon.—

The poor *patient* will as ſoon be found
On the hard matreſs. *Dryden.*

—It is wonderful to obſerve, how inapprehenſive theſe *patients* are of their diſeaſe. *Blackmore.*

* *To* PATIENT. *v. a.* [*patienter*, Fr.] To compoſe one's ſelf; to behave with patience. Obſolete.—

Patient yourſelf, madam, and pardon me.
Shak.

* PATIENTLY. *adv.* [from *patient*.] 1. Without rage under pain or affliction.—

Lament not, Eve, but *patiently* reſign
What juſtly thou haſt loſt. *Milton.*

Ned is in the gout,
Lies rack'd with pain, and you without,
How *patiently* you hear him groan!
How glad the caſe is not your own. *Swift.*

2. Without vicious impetuoſity; with calm diligence.—That which they grant, we gladly accept at their hands, and wiſh that *patiently* they would examine how little cauſe they have to deny that which as yet they grant not. *Hooker.*—Could men but once be perſuaded *patiently* to attend to the dictates of their own minds, religion would gain more proſelytes. *Calamy.*

PATIGUMO, *s. f.* (a corruption of the words *pate de guimauve*), a ſort of paſte or cakes much uſed on the continent, as an agreeable and uſeful remedy for catarrhal defluxions, and ſuppoſed by Dr Percival to conſiſt of gum-arabic combined with ſugar and the whites of eggs. But it is ſaid that the powdered ſubſtance of the marſhmallow is the chief ingredient of the compoſition. The Dr recommends it as an antidote againſt HUMOUR. His receipt is this: "Fine ſugar 4 oz. gum-arabic, 1 oz. roſe water, half an ounce; white of eggs, *q. s.*

(1.) PATIN, Guy, profeſſor of phyſic in the royal college of Paris, was born in 1602. He made his way into the world merely by the force of his genius, being at firſt corrector of a printing houſe. He died in 1672, and his letters, which appeared after his death, have rendered his na famous.

(2.) PATIN, Charles, M. D. the ſon of G made a great figure in the world, and excelle the knowledge of medals. He was born in P in 1633. He ſtudied phyſic, took his degr and practiſed with great ſucceſs. In 1676 was appointed profeſſor of phyſic in Padua; in 1679 was created a knight of St Mark. died in that city in 1694. His works are nu rous. His wife too, and his daughters, were thoreſſes.

(3.) PATIN, or } *n. f.* ÆRUGO, or the g
(1.) PATINA, } ruſt of copper, ſo much v ed by antiquarians, as an evidence of the genu neſs of ancient copper coins. See CHEMISTRY *dex*; and COPPER, § XII. Inſtead of corro the metal, as the ruſt of iron does, Patina is beſt preſervative of ancient copper coins. produced by age alone.

(2.) PATINA, in painting, is applied to a lar change, which takes place upon ancient p ings. See PAINTING, *Part* I, *Sect.* V.

* PATINE. *n. f.* [*patina*, Lat.] The cov a chalice. *Ainſ.*

PATIVILCA, a town of Peru, in Santa.

PATIZITHES, one of the Perſian Magi, w brother having a ſtrong reſemblance to Sme the 2d ſon of Cyrus the Great, he raiſed hi the throne on the death of Cambyſes, preten that he was prince Smerdis. See PERSIA. *dot.* iii, c. 61.

PATKUL, John Reinhold, Count, a brave accompliſhed nobleman, born in Livonia. He employed to repreſent the grievances of that vince to Charles XI. of Sweden; which he with ſuch intrepidity and freedom, that the profeſſed to eſteem him for it. But, being i ality highly incenſed againſt him, he cauſed to be proſecuted for high treaſon; when he condemned to loſe his right hand and his Patkul, however, eſcaped, and entered into ſervice of Peter the Great; but, while acti the Czar's ambaſſador to Auguſtus, K. of Po whom he had formerly ſerved, was moſt ung fully delivered up a priſoner, by that monarc Charles XII.; who cauſed him to be broken on the wheel, with every circumſtance of miny and aggravated cruelty, on the 30th 1707.

* PATLY. *adv.* [from *pat*.] Commodio fitly.

(1.) PATMOS, in ancient geography, o the SPORADES, 30 miles in compaſs, accord Dionyſius and Pliny. It was rendered fa by the exile of St John, and the Revelation e him there. Moſt of interpreters think St wrote them in the ſame place during his Patmos lies between the iſland of Icaria an promontory of Miletus. It is now called *P Patino*, *Patmol*, or *Palmoſa*. Its circuit is 30 miles. It belongs to the Turks. It is derable for its harbours; but the inhabitants been obliged by the pirates to quit the ca and retire to a hill on which St John's co ſtands. This convent is a citadel conſiſti ſeveral irregular towers, and is a ſubſtantial

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ing seated on a very steep rock. The island is very barren, and without wood; but abounds with partridges, rabbits, quails, turtles, pigeons, and snipes. Their corn does not amount to 1000 barrels in a year. In the whole island there are scarce 300 men; but there are above 20 women to one man. To the memory of St John is an hermitage on the side of a mountain, where there is a chapel not above 8 paces long, and 5 broad.

(2.) PATMOS, the capital of the above island. It has a harbour, and some monasteries of Greek monks. Lon. 26. 24. E. Lat. 37. 24. N.

PATNA, a town of Indostan, in the dominions of the Great Mogul, N. of Bengal, where the English have factories for saltpetre, borax, and raw silk. It is the capital of Bahar, a dependency of Bengal, and is situated in a pleasant country, 200 miles E. of Agra. It is 7 miles long, on the banks of the Ganges, and about half a mile broad. Mr Rennel gives strong reasons for supposing it to be the ancient PALIBOTHRA. The town is large and populous, but the houses are distant from each other. Lon. 85. 40. E. Lat. 25. 35. N.

PATOECI. See PATÆCI.

PATOMA, a river of Russia, which runs into the Lena; in Lon. 134. 10. E. of Ferro. Lat. 59. 30. N.

PATOMACK, a large river of North America, in Virginia, which rises in the Alleghany mountains, separates Virginia from Maryland, and falls into Chesapeak bay. It is about 7 miles broad, and is navigable for near 200 miles.

PATONCE, or POTENCE, *n. s.* in heraldry, is a cross, fury at the ends; from which it differs only in this, that the ends, instead of turning down like a fleur-de-lis, are extended somewhat in the figure form. See FLORY.

PATONG, a town of China, of the 3d rank, in Hou-quang, on the Yang-tse; 15 miles WNW. of Kiege.

PATQUASHAGAMA, a lake of Canada; 450 miles W. of Quebec.

PATRÆ, a city of Achaia, at the NW. of Peloponnesus, anciently called *Aroe*. It was visited by Dr Chandler, who gives the following account of it. "It has been often attacked by enemies, plundered, and pillaged. It is a considerable town, at a distance from the sea, situated on the side of a hill, which has its summit crowned with a ruinous castle. This made a brave defence in 1447 against Sultan Morat, and held out until the peace was concluded, which first rendered the Morea tributary to the Turks. A dry flat before it was once the port, which has been choked with mud. There is now, as in the time of Strabo, only an indifferent road for vessels. It is a place of some trade, and is inhabited by Jews, Turks, and Greeks. The latter have several churches. One is dedicated to St Andrew, who suffered martyrdom there. It had been recently repaired. The water by the sea is supposed that of the temple of Ceres; by it is a fountain. The air is bad, and the country round about over-run with the *glycyrrhiza* or liquorice. Patræ assisted the Ætolians when invaded by the Gauls under Brennus; but afterwards was reduced to extreme poverty, and almost abandoned. Augustus reunited the scattered citizens, and made it a Roman colony, settling a portion of the troops which obtained the victory of Actium, with other inhabitants from the adjacent places. Patræ reflourished and enjoyed dominion over Naupactus, Œanthea, and several cities of Achaia. In the time of Pausanias, it was adorned with temples and porticoes, a theatre, and an odeum which was superior to any in Greece, but that of Atticus Herodes at Athens. In the lower part of the city was a temple of Bacchus Æsymnetes, in which was an image preserved in a chest, and conveyed from Troy by Eurypylus. By the port were temples; and by the sea, one of Ceres, with a pleasant grove and a prophetic fountain of *unerring veracity* in determining the event of any illness. After supplicating the goddess with incense, the sick person appeared, dead or living, in a mirror suspended so as to touch the surface of the water. In the citadel of Patræ was a temple of Diana Laphria, with her statue in the habit of a huntress, of ivory and gold, given by Augustus Cæsar, when he laid waste Calydon and the cities of Ætolia to people Nicopolis. The Patrensians honoured her with a yearly festival, which is described by Pausanias who was a spectator. They formed a circle round the altar with pieces of green wood, each 16 cubits long, and within heaped dry fuel. The solemnity began with a most magnificent procession, which was closed by the virgin priestess in a chariot drawn by stags. On the following day, the city and private persons offered at the altar fruits, and birds, and all kinds of victims, wild boars, stags, deer, young wolves, and beasts full grown; after which, the fire was kindled. It was not remembered that any wound had ever been received at this ceremony, though the spectacle and sacrifice were as dangerous as savage. The number of women at Patræ was double that of the men. They were employed chiefly in a manufacture of flax which grew in Elis, weaving garments, and attire for the head."

PATRANA. See PASTRANA.

PATRAS, an ancient and flourishing town of European Turkey, in the Morea, capital of a duchy, with a Greek archbishop's see. It is pretty large and populous; and the Jews, who are one 3d part of the inhabitants, have four synagogues. There are several handsome mosques and Greek churches. The Jews carry on a great trade in silk, leather, honey, wax, and cheese. There are cypress trees of a prodigious height, and excellent pomegranates, citrons, and oranges. It has been several times taken and retaken, and is now in the hands of the Turks. It is seated in Lon. 21. 45. E. Lat. 38. 17. N.

PATRES CONSCRIPTI. See CONSCRIPT and SENATOR.

PATRIA, a town and lake of Naples, in Lavora; 13 miles NW. of Naples.

(1.) * PATRIARCH. *n. s.* [*patriarche*, French; *patriarcha*, Latin.] 1. One who governs by paternal right; the father and ruler of a family.—

So spake the *patriarch* of mankind. *Milton.*

The monarch oak, the *patriarch* of the trees,
Shoots rising up. *Dryden.*

2. A bishop superior to archbishops.—The *patriarchs* for 200 years had been of one house. *Raleigh.*

leigh.—Where ſecular primates were heretofore given, the eccleſiaſtical laws have ordered *patriarchs* and eccleſiaſtical primates to be placed. *Ayliffe.*

(2.) PATRIARCH, } one of thoſe firſt fathers
(2.) PATRIARCHA, } who lived towards the beginning of the world, and who became famous by their long lines of deſcendants. Abraham, Iſaac, and Jacob, and his 12 ſons, are the patriarchs of the Old Teſtament; Adam, Seth, Enoch, &c. were antediluvian patriarchs. See ANTEDILUVIANS. The authority of patriarchal government exiſted in the fathers of families, and their firſt-born after them, exerciſing all kinds of eccleſiaſtical and civil authority in their reſpective houſeholds; and to this government, which laſted till the time of the Iſraelites dwelling in Egypt, ſome have aſcribed an abſolute and deſpotic power, extending even to the puniſhment by death.

(3.) PATRIARCHS, among Chriſtians, are eccleſiaſtical dignitaries, or biſhops, ſo called from their paternal authority in the church. The power of patriarchs was not the ſame in all, but differed according to the cuſtoms of countries, or the pleaſure of kings and councils. Thus the patriarch of Conſtantinople grew to be a patriarch over the patriarchs of Epheſus and Cæſarea, and was called the *œcumenical and univerſal patriarch;* and the patriarch of Alexandria had ſome prerogatives which no other patriarch but himſelf enjoyed, ſuch as the right of conſecrating and approving every ſingle biſhop under his juriſdiction. The patriarchate has been ever eſteemed the ſupreme dignity in the church: the biſhop had only under him the territory of the city of which he was biſhop: the metropolitan ſuperintended a province, and had for ſuffragans the biſhops of his province; the primate was the chief of what was then called a DIOCESE, and had ſeveral metropolitans under him; and the patriarch had under him ſeveral dioceſes, compoſing one exarchate, and the primates themſelves were under him. Uſher, Pagi, De Marca, and Morinus, attribute the eſtabliſhment of the grand patriarchates to the apoſtles themſelves; who, in their opinion, pitched on the three principal cities in the three parts of the known world; viz. Rome in Europe, Antioch in Aſia, and Alexandria in Africa: and thus formed a trinity of patriarchs. Others maintain that the name patriarch was unknown at the time of the council of Nice; and that long afterwards patriarchs and primates were confounded together, as being all equally chiefs of dioceſes, and ſuperior to metropolitans, who were only chiefs of provinces. Hence Socrates gives the title patriarch to all the chiefs of dioceſes, and reckons ten of them. It does not appear that the dignity of patriarch was appropriated to the five grand ſees of Rome, Conſtantinople, Alexandria, Antioch, and Jeruſalem, till after the council of Chalcedon in 451; for when the council of Nice regulated the limits and prerogatives of the three patriarchs of Rome, Antioch, and Alexandria, it did not give them the title of patriarchs, though it allowed them the pre-eminence and privileges thereof. Nor is the term *patriarch* found in the decree of the council of Chalcedon, whereby the 5th place is aſſigned to the biſhop of Jeruſalem; nor did theſe five patriarchs govern all the churches. There were beſides many independent chiefs of dioceſes, who far from owning the juriſdiction of the grand patriarchs, called themſelves *patriarchs*; ſuch as that of Aquileia; nor was Carthage ever ſubject to the patriarch of Alexandria. Moſheim imagines that the biſhops, who enjoyed a certain degree of pre-eminence over the reſt of their order, were diſtinguiſhed by the Jewiſh title of patriarchs in the fourth century. The authority of the patriarchs gradually increaſed, till, about the cloſe of the 5th century, all affairs of moment with their patriarchate came before them. They conſecrated biſhops; aſſembled yearly in council the clergy of their reſpective diſtricts; pronounced deciſive judgment in thoſe caſes where accuſations were brought againſt biſhops; and appointed vicars or deputies, clothed with their authority, for the preſervation of order in the remote provinces. In ſhort, nothing was done without conſulting them; and their decrees were executed with the ſame reſpect as thoſe of the princes. But the authority of the patriarchs was not acknowledged through *all* the provinces. Several diſtricts, both in the eaſtern and weſtern empires, were exempted from their juriſdiction. The Latin church had no patriarchs till the 6th century; and the churches of Gaul, Britain, &c. were never ſubject to the authority of any patriarch. There was no primacy, no archate nor patriarchate, owned here but the biſhops, with the metropolitans, governed the church in common. Du Cange ſays, that ſome abbots have born the title of patriarchs.

(4.) PATRIARCHS, JEWISH, a dignity, reſpecting the origin of which there is a variety of opinions. The learned authors of the univerſal Hiſtory think that the firſt appearance and inſtitution of the patriarchs happened under Nerva the ſucceſſor of Domitian. It ſeems probable that the patriarchs were of the Aaronic or Levitical race; the tribe of Judah being at that time too much depreſſed and too obnoxious to the Romans to be able to aſſume any external power. But of whatever rank they were, their authority came to be very conſiderable. Their principal buſineſs was to inſtruct the people; and for this purpoſe they inſtituted ſchools in ſeveral cities. And having gained a reputation for their extraordinary learning, wiſdom, and piety, they might, in time, not only bring a great concourſe of other Jews from other parts, as from Egypt and other weſtern provinces of the diſperſion, but likewiſe prove the means of the patriarchal authority being acknowledged there. From them they ventured at length to levy a kind of tribute, to defray the charges of their diſtricts and of the *Apoſtoli*, or *Legati*, under them, whoſe buſineſs it was to carry their orders and decrees through the other provinces of their diſperſion, and to ſee them punctually executed by all, that ſome ſhadow of union might be kept up among the weſtern Jews. They likewiſe nominated the doctors who were to preſide over their ſchools and academies; and theſe were in proceſs of time ſtyled *chiefs* and *princes*, in order to raiſe the credit of that dignity, or to imply the great reſpect which their diſciples were to pay to them. The chiefs became at length rivals of the patriarchs, and ſome of them poſſeſſed both dignities at once.

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an uſurpation which cauſed not only great confuſion amongſt them, but, oftentimes violent and bloody conteſts. However, the Jewiſh Rabbies have trumped up a much older æra for this patriarchal dignity, and have given us a ſucceſſion of them down to the 5th century, in which it was abolished. According to them, the firſt patriarch was Hillel, ſurnamed the *Babylonian*, becauſe he was ſent for from Babylon to Jeruſalem about 100 years before the ruin of their capital, or 30 before the birth of Chriſt, to decide a diſpute about the keeping of Eaſter, which on that year fell out on the Sabbath day; and it was on account of his wiſe deciſion that he was raiſed to that dignity, which continued in his family till the 5th century. He was likewiſe looked upon as a ſecond Moſes, becauſe he lived like him 40 years in obſcurity, 40 more in great reputation for learning and ſanctity, and 40 more in poſſeſſion of the patriarchal dignity. They make him little inferior to that law-giver in other of his excellencies, as well as in the great authority he gained over the whole Jewiſh nation. The wonder is, how Herod the Great, who was ſo jealous of his power, could ſuffer a ſtranger to be raiſed to ſuch a height of it, barely for having decided a diſpute of little importance. Hillel was ſucceeded by his ſon Simeon, whom many Chriſtians pretend to have been the venerable old perſon of that name, who received the divine infant in his arms. The Jews give him but a very obſcure patriarchate; though the Chriſtian authors make him chief of the Sanhedrim; and Epiphanius ſays, that the people hated him ſo much for giving ſo ample a teſtimony to the divine child, that they denied him common burial. But it is hardly credible, that St Luke ſhould have ſo careleſsly paſſed over his two-fold dignity, if he had been really poſſeſſed of them. He was ſucceeded by Jochanan, not in right of deſcent, but of his extraordinary merit, which the Rabbies deſcribe in terms of the moſt extravagant hyperboles. He enjoyed his dignity but two years, or at moſt 5 years, and is ſaid to have fortold to Titus, that he was ordained to deſtroy the temple; on which account they pretend that general gave him leave to remove the ſanhedrim to Japhne. The Jewiſh writers add, that he erected an academy there, which laſted till the death of Akiba; was the ſeat of the patriarch; and conſiſted of 300 ſchools; and another at Lydda, near Japhne, and where the famed St George is buried. He lived 120 years and being aſked, what he had done to prolong his life? he gave this anſwer; "I have taken care to procure all feſtivals: and my mother even ſold her head ornaments to buy wine to make me merry on ſuch days; and left me at her death 300 buſhels of it, to *ſanctify the Sabbath!*"—The men that flouriſhed in his time were no leſs conſiderable, particularly the famed Rabbi Chaniah, of whom the Bath Col was heard to ſay, that the world was preſerved for the ſake of him; and Nicodemus, who, they pretend, ſtopped the courſe of the ſun, like Joſhua. He was ſucceeded by Gamaliel, a man of unſufferable pride; and of ſo univerſal authority over all the Jews, not only in the weſt, but over the whole world, that the very monarchs ſuffered his laws to be obeyed in their dominions. In his days flouriſhed Samuel the Leſs, who compoſed a prayer full of the bittereſt curſes againſt heretics, by which they mean the Chriſtians; and which are ſtill in uſe. Gamaliel was no leſs an enemy to them; and yet both have been challenged, the former as the celebrated maſter of our great apoſtle, the other as his diſciple in his unconverted ſtate. Simon II. his ſon and ſucceſſor, was the firſt martyr who died during the ſiege of Jeruſalem. The people ſo regretted his death, that an order was given, inſtead of 10 bumpers of wine, which were uſually drank at the funeral of a ſaint, to drink 13 at his, on account of his martyrdom. Theſe are the patriarchs, who, the Rabbies tell us, preceded the deſtruction of the temple; and we need no farther confutation of this pretended dignity, than the ſilence of the ſacred hiſtorians, who not only make not the leaſt mention of it, but aſſure us all along that they were the high-prieſts who preſided in the ſanhedrim; and before whom all caſes relating to the Jewiſh religion were brought and decided. It was the high-prieſt who condemned our Saviour and St Stephen; who forbad the apoſtles to preach in Chriſt's name; and who ſat as judge on St Paul. The ſame may be urged from Joſephus, who muſt have known and mentioned this pretended dignity, if any ſuch there had been; and yet is ſo far from taking the leaſt notice of it, that, he places the pontiffs alone at the head of all the Jewiſh affairs; and names the high-prieſt Ananus as having the care and direction of the war againſt the Romans;—which is an evident proof that there were then no ſuch patriarchs in being. If there had been any ſuch remarkable ſucceſſion, the Talmudiſts would have preſerved it; whereas, neither they, nor any of the ancient authors of the Jewiſh church, make any mention of it; but only ſome of their doctors, who have written a conſiderable time after them, to whom little credit can be given, as there are ſuch unſurmountable contradictions between them, as no authors either Jewiſh or Chriſtian have been able to reconcile. Their ſucceſſion, according to thoſe rabbies, ſtands as follows: 1. Hillel the Babylonian. 2. Simeon the ſon of Hillel. 3. Gamaliel the ſon of Simeon. 4. Simeon II. the ſon of Gamaliel. 5. Gamaliel II. the ſon of Simeon II. 6. Simeon III. the ſon of Gamaliel II. 7. Judah the ſon of Simeon III. 8. Gamaliel III. the ſon of Judah. 9. Judah II. the ſon of Gamaliel III. 10. Hillel II. ſon of Judah II. 11. Judah III. ſon of Hillel II. 12. Hillel III. ſon of Judah III. 13. Gamaliel IV. ſon of Hillel III. But Gants Tzemach David hath reduced them to 10. On the whole, it cannot be doubted but that their firſt riſe was in Nerva's time, however much Jewiſh pride may have prompted them to aſſert their origin to have been more ancient than it really was. They have alſo exaggerated their power beyond all bounds, for the purpoſe of repelling the arguments of Chriſtians. In time however, they certainly impoſed upon the people; and what power they did poſſeſs (which the Romans only allowed to be in religious matters, or in ſuch as were connected with religion) they exerciſed with great rigour. Their pecuniary demands became very exorbitant; and was the cauſe of their ſuppreſſion in the year 429.

(1.) * PA-

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(1.) * PATRIARCHAL. *adj.* [*patriarchal*, Fr. from *patriarch*.] 1. Belonging to patriarchs; such as was poſſeſſed or enjoyed by patriarchs.—

Such drowſy ſedentary ſouls have they,
Who would to *patria·chal* years live on. *Norris.*

—Nimrod enjoyed this *patriarchal* power; but he againſt right enlarged his empire. *Locke.* 2. Belonging to hierarchical patriarchs.—Archbiſhops or metropolitans in France are immediately ſubject to the pope's juriſdiction; and, in other places, they are immediately ſubject to the *patriarchal* ſees. *Ayliffe.*

(2.) PATRIARCHAL CROSS, in heraldry, is that where the ſhaft is twice croſſed; the lower arms being longer than the upper ones.

* PATRIARCHATE. } *n. ſ.* [*patriarchat*, [Fr.
* PATRIARCHSHIP. } from *patriarch*.] A biſhoprick ſuperior to archbiſhopricks.—The queſtions are as ancient as the differences between Rome and any other of the old *patriarchates*. *Selden.*—Prelacies may be termed the greater benefices; as that of the pontificate, a *patriarchſhip* and archbiſhopric. *Ayliffe.*

* PATRIARCHY. *n. ſ.* Juriſdiction of a patriarch; patriarchate.—Çalabria pertained to the patriarch of Conſtantinople, as appeareth in the novel of Leo Sophus, touching the precedence of metropolitans belonging to that *patriarchy*. *Brerewood.*

PATRICA, a town of Italy, in the territory of the Church, and Campagna of Rome, towards the ſea-coaſt, 8 miles E. of Oſtia, and 13 S. of Rome. About a mile from it is a hill called *Monte de Livano*, which ſome have thought to be the ſite of the ancient Lavinium, founded by Æneas.

(1.) * PATRICIAN. *adj.* [*patricien*, Fr. *patricius*, Lat.] Senatorial; noble; not plebeian.—

Th' inſulting tyrant prancing o'er the field,
His horſes hoofs wet with *patrician* blood.
Addiſon.

(2.) * PATRICIAN. *n. ſ.* A nobleman.—

Noble *patricians*, patrons of my right,
Defend the juſtice of my cauſe with arms. *Sbak.*

You'll find Gracchus, from *patrician* grown
A fencer and the ſcandal of the town. *Dryd.*

—Your daughters are all married to wealthy *patricians*. *Swift.*

(3.) PATRICIAN was a title given, among the ancient Romans, to the deſcendants of the 100 or 200 firſt ſenators choſen by Romulus; and by him called *patres*, *fathers*. Romulus eſtabliſhed this order after the example of the Athenians; who were divided into two claſſes, viz. the εὐπατρίδαι, *patricios*, and δημόσιοι, *populares*. Patricians, therefore, were originally the nobility; in oppoſition to the Plebeians. They were the only perſons whom Romulus allowed to aſpire to the magiſtracy; and they exerciſed all the functions of the prieſthood till A.U.C. 495. But the cognizance and character of theſe ancient families being almoſt loſt by a long courſe of years, and frequent changes in the empire, a new kind of patricians were afterwards ſet on foot, who had no pretenſions from birth, but whoſe title depended entirely on the emperor's favour. This new patriciate, Zozimus tells us, was erected by Conſtantine, who conferred the quality on his counſellors, not becauſe they were deſcended from the ancient fathers of the ſenate, but becauſe they were the fathers the republic or of the empire. This dignity time became the higheſt of the empire. Juſtini calls it *ſummam dignitatem*. In effect, the pa cians ſeem to have had the precedence of the c *ſulares*, and to have taken place before them in ſenate; though F. Faber aſſerts the contra What confounds the queſtion is, that the two d nities often met in the ſame perſon; becauſe patriciate was only conferred on thoſe who gone through the firſt offices of the empire, or been conſuls. Pope Adrian made Charlema take the title of patrician before he aſſumed quality of emperor; and other popes have gi the title to other kings and princes.

(4.) PATRICIAN was alſo a title of honour o conferred on men of the firſt quality in Engla in the time of the Anglo Saxon kings. See THA

(5.) PATRICIAN DEITIES, PATRICII DII, mythology, were Janus, Saturn, the Genius, to, Bacchus, the Sun, the Moon, and the Ear

(6.) PATRICIANS, in eccleſiaſtical writers, w ancient ſectaries, who diſturbed the peace of church in the beginning of the third century: called from their founder PATRICIUS, prece of a Marcionite called *Symmachus*. His di guiſhing tenet was, that the ſubſtance of the is not the work of God, but that of the devil; which account his adherents bore an implac hatred to their own fleſh; which ſometimes ried them ſo far as to kill themſelves. They alſo called TATIANITES, and made a branc the ENCRATITÆ.

PATRIC DEL. See PATRICIAN, § 5.

PATRICIUS. See PATRICIAN, § 6; and P KICK, N° 3.

(1.) PATRICK, Peter, a native of Theſſa ea, who was ſent by the emp. Juſtinian I. an ſador to Amalaſuntha, Q. of the Goths, A 534; and in 550 to Choſroes, K. of Perſia, to clude a peace. On his return he was appoi mayor of the palace. He wrote a work enti *The Hiſtory of Ambaſſadors*, part of which is ex and was publiſhed in the *Collection of Byza Hiſtorians*; in 1648, folio.

(2.) PATRICK, Simon, D. D. a very lea Engliſh biſhop, born at Gainſborough in Lin ſhire in 1626. In 1644 he was admitted Queen's college, Cambridge, and entered holy orders. After being for ſome time cha to Sir Walter St John, and vicar of Batter Surry, he was made rector of St Paul's, Co garden, London. In 1678 he was made dea Peterborough where he was much beloved. ring the reign of K. James II. he boldly pre and wrote againſt the church of Rome. In he was appointed Bp. of Chicheſter, and wa ployed with others of the new biſhops to ſett affairs of the church in Ireland. In 1691 h tranſlated to the ſee of Ely: He died in after having publiſhed various works; a which the moſt diſtinguiſhed are, Paraphraſe Commentaries on the Holy Scriptures, 3 vol 2. Tracts againſt popery: 3. Sermons: 4. H of the Church of Peterborough.

(3.) PATRICK, ST, the apoſtle of Ireland 2d biſhop of that country. He was born 5th A. D. 373, of a good family, at Kirk-Pa

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near Dumbarton, now in Scotland, but then comprehended under Britain.—His baptismal name Sarath, signifies, in the British language, *valiant in war*. On some inroad of certain exiles from Ireland he was taken prisoner, and carried into that kingdom, where he continued six years in the service of Milcho, who had bought him, when Patrick acquired the new name of *Cothraig*, or *Ceathar-Tigh*, i. e. *four families*. In this time he made himself master of the Irish language, and at last made his escape, and returned home on board a ship. About two years after, he formed a design of converting the Irish, either in consequence of a dream, or of what he had observed during his acquaintance with them. To qualify himself for this, he travelled to the continent, where he continued 35 years, pursuing his studies under his mother's uncle, St Martin Bp. of Tours, who had ordained him deacon; and after his death with St German, bishop of Auxerre, who ordained him priest, and gave him his 3d name *Maun* or *Magian*. Pope Celestine consecrated him bishop, and gave him his most familiar name *Patricius*, expressive of his honourable descent; and to give lustre and weight to the commission which he now charged him with to convert the Irish. Palladius had been there a year before him, but with little success: the saints Kieran, Ailbe, Decian, and Ibar were there before them both. But the great office of Apostle of Ireland was reserved for Patrick, who landed in the country of the Evolein, or at Wicklow, A. D. 441. His first convert was Sinell, the 8th in descent from Cormac king of Leinster. He then proceeded to Dublin, and thence to Ulster, where he founded a church (afterwards the famous abbey of Saul, in the county of Down), remarkable for its position and being made out of a barn. After labouring 7 years indefatigably in his great work, he returned to Britain, which he delivered from the heresies of Pelagius and Arius; engaged several eminent persons to assist him; visited the Isle of Man, which he converted in 440, when the bishopric was founded; and A. D. 448, returned to the see of Armagh, which he had founded in 444; and in 13 years more completed the conversion of the whole island. After giving an account of his commission at Rome, he once more returned to Ireland, and spent the remainder of his life between the monasteries of Armagh and Saul, superintending and enforcing the doctrine and discipline which he had established. After having established schools, or an academy, he died at Saul in 493, aged 120, March 17. A. D. 493, and was buried at Down afterwards, in the same grave with St Briget and St Columb. His genuine works were collected and printed by Sir James Ware, 1656. His immediate successor in this see was St Benignus or Begnus.

(3.) PATRICK, ST, ORDER OF, an institution which took place in Ireland in 1783. On the 5th of Feb. 1783 the king ordered letters patent to be passed under the great seal of the kingdom of Ireland, for erecting a society or brotherhood, to be called *the knights of the illustrious order of St Patrick*, of which the king, his heirs, and successors, shall perpetually be sovereigns, and his majesty's lieutenant-general and general governor of Ireland, &c. for the time being, shall officiate as grand-masters; and also for appointing prince Edward, and several of the prime nobility of Ireland, knights companions of the said illustrious order.

PATRICK'S EA, or ISLE. See BATTERSEA.

PATRICK'S ISLE, ST. an island of Ireland, on the coast of Dublin, opposite Balruddery.

(1.) PATRICK'S, ST, a town of Ireland, in the county of Waterford, and province of Munster.

(2.) PATRICK'S, ST, a town of Georgia, capital of Camden county, seated on the Great Satilla, 32 miles above its mouth.

PATRICK'S WELL, ST, a town of Ireland, in the county of Limerick, and province of Munster.

PATRIMONIA, a town of Corsica, 4 miles W. of Bastia.

* PATRIMONIAL. *adj.* [*patrimonial*, Fr. from *patrimony*.] Possessed by inheritance.—The expence of the duke of Ormond's own great *patrimonial* estate, that came over at that time, is of no small consideration in the stock of this kingdom. *Temple.*

Their *patrimonial* sloth the Spaniards keep. *Dryden.*

* PATRIMONIALLY. *adv.* [from *patrimonial*.] By inheritance. Good princes have not only made a distinction between what was their own *patrimonially*, as the civil law books term it, and what the state had an interest in. *Davenant.*

PATRIMONIO, or ST PETER'S PATRIMONY, a province of Italy in the Pope's dominions; so called, because it was granted by the emperor Constantine, to support a church, which he built in honour of St Peter, and for the use of the Pope. It is bounded on the N. by Orvietano and part of Umbria; E. by Sabina and Campagna di Roma; SW. by the Mediterranean; and NW. by the duchy of Castro. It is about 43 miles long, and 32 broad; and is fertile in corn and fruit. It also produces great quantities of alum. Viterbo is the capital; the other chief cities are Bosiena, Castellana, Civita Vecchia, and Monte Fiascone.

(1.) * PATRIMONY. *n. s.* [*patrimonium*, Lat. *patrimoine*, Fr.] An estate possessed by inheritance.—Inclosures they would not forbid, for that had been to forbid the improvement of the *patrimony* of the kindgom. *Bacon.*—

So might the heir, whose father hath, in play,
Wasted a thousand pounds of ancient rent,
By painful earning of one groat a day,
Hope to restore the *patrimony* spent. *Davies.*
Posterity stand curs'd! fair *patrimony*
That I must leave ye, sons. *Milton.*
For this redemption, all my *patrimony*
I am ready to forego and quit. *Milton.*
Their ships like wasted *patrimonies* shew. *Dryden.*

The shepherd last appears,
And with him all his *patrimony* bears. *Dryden.*

(2.) PATRIMONY, has been also applied to church estates or revenues; in which sense authors say, the patrimony of the church of Rimini, Milan, &c. The church of Rome had patrimonies in France, Africa, Sicily, and many other countries. To create the greater respect to the estates belonging to the church, it was usual to give their patrimonies the names of the saints they held in the highest veneration; thus the estate

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ſtate of the church of Ravenna was called the *patrimony of St Apollinarius*; that of Milan, the *patrimony of St Ambroſe*; and the eſtates of the Roman church were called the *patrimony of St Peter in Abruzzo*, the *patrimony of St Peter in Sicily*, and the like.

(3.) PATRIMONY OF ST PETER. See PATRIMONIO.

PATRINGTON, a town of Yorkſhire, near the mouth of the Humber, anciently called PRÆTORIUM. It is ſeated at the place where the Roman road from the Picts wall ended. It has a market on Sat. and lies 18 miles ESE. of Hull, 50 SE. of York, and 192 N. of London. Lon. 0. 8. E. Lat. 53. 49. N.

(1.) * PATRIOT. *n. ſ.* 1. One whoſe ruling paſſion is the love of his country.—

Patriots who for ſacred freedom ſtood. *Tickel.*

The firm *patriot* there,
Who made the welfare of mankind his care,
Shall know he conquer'd. *Addiſon.*

Here tears ſhall flow from a more gen'rous cauſe,
Such tears as *patriots* ſhed for dying laws. *Pope.*

2. It is ſometimes uſed for a factious diſturber of the government.

(2.) PATRIOTS, EMINENT. For inſtances of eminent ancient patriots, See ARISTIDES, ARISTOMENES, BRUTUS, CINCINNATUS, CODRUS, DECIUS MUS, EPAMINONDAS, FABRICIUS, LYCURGUS, PELOPIDAS, TIMOLEON, &c. For modern examples, See TELL, WALLACE and WASHINGTON.

PATRIOTIC, *adj.* Actuated by the love of one's country; belonging to a patriot, or patriotiſm.

(1.) * PATRIOTISM. *n. ſ.* [from *patriot*.] Love of one's country; zeal for one's country.

(2.) PATRIOTISM. Numberleſs inſtances of the moſt exalted patriotiſm are recorded in the hiſtories of ancient Greece and Rome. But no event, in ancient or modern hiſtory, ever did or can exceed that well authenticated fact, that occurred in 1347, at the ſiege of Calais. See CALAIS, N° 1. Nor has our own country been deficient in examples of the moſt diſintereſted Patriotiſm. We ſhall only refer to WALLACE.

PATRIPASSIANI, } A ſect of Chriſtians, who
PATRIPASSIANS, } appeared about the end of the 2d century, ſo called from their aſcribing paſſion or ſuffering, to the Father; for they aſſerted the Unity of God in ſuch a manner as to deſtroy all diſtinction of perſons, and to make the Father and Son preciſely the ſame; in which they were followed by the Sabellians and others. The author of this hereſy was PRAXEAS, a philoſopher of Phrygia. Swedenbourg and his followers ſeem to hold the ſame faith.

PATRIX, Peter, a French poet, born at Caen, in 1585. Several of his poems are on religious ſubjects; but one of them, entitled *the Dream*, has been often tranſlated and imitated. He died at Paris, in 1673, aged 88.

(1.) PATRIZI, Francis, Bp. of Gayette, an Italian author of the 15th century. He wrote ſeveral works beſides Ten Dialogues in Italian, on the manner of writing and ſtudying Hiſtory; which are much eſteemed. He died in 1494.

(2.) PATRIZI, Francis, a learned Italian, b in 1530, at Cherſo, in Iſtria; who taught ph ſophy at Rome, Ferrara and Padua with great putation. He was an opponent of the Peripa tics. He wrote many works; but his *Para Militari*, or Parallel of the ancient Military with the modern, Rome, 1594, fol. is eſteem his moſt capital piece. He died in 1597, aged

* *To* PATROCINATE. *v. a.* [*patrocinor*, *patrociner*, old French.] To patroniſe; to tect; to defend. *Dict.*

PATROCLES, an ancient author, mentio by Strabo, who wrote a Hiſtory of the Worl

PATROCLI, an iſland on the coaſt of At *Pauſan.* iv. C. 5.

PATROCLUS, a Grecian chief at the Tr war. He was the ſon of Menœtius king of O by Sthenele, Philomela or Polymela. The ki of Clyſonymus, the ſon of Amphidamas, by dent, in his youth, made him fly from Opus, went to the court of Peleus king of Phthia; cordially received, and contracted the moſt mate friendſhip with Achilles the king's When the Greeks went to the Trojan war troclus went with them at the expreſs defi his father, and embarked with ten ſhips Phthia. He was the conſtant companion of A les; lodged in the ſame tent; and when he ed to appear in the field of battle, on accou Agamemnon's injuſtice, Patroclus imitate example, and his abſence was the cauſe of loſs to the Grecks. At laſt Neſtor prevailed him to return to the war, and Achilles perm him to appear in his armour. The brav Patroclus, with the terror which the ſight arms of Achilles inſpired, ſoon routed the jans, and obliged them to fly to the city. would have broken down the walls; but A oppoſed him; and Hector, at the inſtigati that god, diſmounted from his chariot to him as he attempted to ſtrip a Trojan who had ſlain. This engagment was obſtinate Patroclus was at length overpowered by H with the aid of Apollo. His body was at l covered, and carried to the Grecian camp, Achilles received it with the loudeſt lamenta His funerals were obſerved with the great lemnity. Achilles ſacrificed near the burnin 12 young Trojans, 4 of his horſes, and two dogs; and the whole was concluded by th bition of funeral games, in which the conq were liberally rewarded by Achilles. A laying, aſide his reſentment againſt Agame entered the field to avenge the fall of his f and his anger was gratified only by the ſla of Hector, who had kindled his wrath by a ing at the head of the Trojan armies in the a taken from Patroclus. The patronymic o *rides* is applied to Patroclus, becauſe Act father to Menœtius.

(1.) * PATROL. *n. ſ.* [*patrouille*, *patouil* French.] 1. The act of going the rounds in riſon to obſerve that orders are kept. 2. that go the rounds.—

Send forth the ſaving virtues round th
In bright *patrol.* *T*

(2.) *The* PATROL, in war, (§ 1, *Def.* 2.) g ly conſiſts of 5 or 6 men, detached from a

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on guard, and commanded by a ſerjeant. They go every hour of the night, from the beating of the tattoo until the reveille: they walk in the ſtreets in garriſons, and over the camp in the field, to prevent diſorders, or any number of people from aſſembling together; they are to ſee the lights in the ſoldiers barracks put out, and to take up all the ſoldiers they find out of their quarters. Sometimes patrols conſiſt of an officer and 30 or 40 men, as well infantry as cavalry; but then the enemy is generally near at hand, and conſequently the danger greater.

* *To* PATROL. *v. n.* [*patrouiller*, Fr.] To go the rounds in a camp or garriſon.—

Theſe outguards of the mind are ſent abroad,
And ſtill *patrolling* beat the neighb'ring road.
Blackmore.

(1.) * PATRON. *n. ſ.* [*patron*, Fr. *patronus*, Latin.] 1. One who countenances, ſupports or protects. Commonly a wretch who ſupports with inſolence, and is paid with flattery.

I'll plead for you, as for my *patron*. *Shak.*
Ne'er let me paſs in ſilence Dorſet's name;
Ne'er ceaſe to mention the continu'd debt,
Which the great *patron* only would forget.
Prior.

2. A guardian ſaint.—

Thou amongſt thoſe ſaints, whom thou do'ſt ſee,
Shalt be a ſaint, and thine own nation's friend
And *patron*. *Spenſer.*

—St Michael is mentioned as the *patron* of the Jews, and is now taken by the Chriſtians. *Dryd.* 3. Advocate; defender; vindicator.—We are no *patrons* of thoſe things. *Hooker.*—Whether the minds of men have naturally imprinted on them the ideas of extenſion and number, I leave to thoſe who are the *patrons* of innate principles. *Locke.* 4. One who has donation of eccleſiaſtical preferment.—

Far more the *patrons* than the clerks inflame:
Patrons of ſenſe afraid, but not of vice. *Weſley.*

(2.) PATRON, among the ancient Romans, was an appellation given to a maſter who had freed a ſlave. As ſoon as the relation of maſter expired, that of patron began: for the Romans, in giving their ſlaves their freedom, did not deſpoil themſelves of all rights and privileges in them; the ſtill ſubjected them to conſiderable ſervices and duties towards their patrons, the neglect of which was very ſeverely puniſhed.

(3.) PATRON was alſo a name, which the ancient Romans gave to ſome great man, under whoſe protection they uſually put themſelves; giving him all kinds of honour and reſpect, and denominating themſelves his CLIENTS; while the patron, on his ſide, granted them his credit and protection. They were therefore mutually attached and mutually obliged to each other; and even in conſequence of reciprocal ties, all thoſe diſſentions, jealouſies, and animoſities, which are often the effect of a difference of rank, were evidently avoided: for it was the duty of the patron to adviſe his clients in points of law, to maintain their ſuits, to take care of them as of his own affairs, and ſecure their peace and happineſs. The clients were to aſſiſt their patrons with money on ſeveral occaſions; to ranſom them or their children when taken in war; to contribute to the portions of their daughters; and to defray in part, the charges of their public employments. They were never to accuſe each other, or take contrary ſides; and if either of them was convicted of having violated this law, the crime was equal to that of treaſon, and any one was allowed to kill the offender with impunity. This patronage was a tie as effectual as any conſanguinity or alliance, and had a wonderful effect towards maintaining union and concord among the people for the ſpace of 600 years; during which time we find no diſſentions nor jealouſies between the patrons and their clients, even in the times of the republic, when the populace frequently mutinied againſt thoſe who were moſt powerful in the city.

(4.) PATRON, in the church of Rome, (§ 1. *def.* 2.) a ſaint whoſe name a perſon bears, or under whoſe protection he is put, and whom he takes particular care to invoke; or a ſaint in whoſe name a church or order is founded.

(5.) PATRON, in the canon or common law, (§ 1, *def.* 4.) is a perſon who, having the advowſon of a parſonage, vicarage, or the like ſpiritual promotion, belonging to his manor, hath on that account the gift and diſpoſition of the benefice, and may preſent to it whenever it becomes vacant. The patron's right of diſpoſing of a benefice originally ariſes either from the patron or his anceſtors, &c. being the founders or builders of the church; from their having given lands for the maintenance thereof; or from the church's being built on their ground; and frequently from all three together. See PATRONAGE, § 2.

(6.) PATRON, in geography, or *Padron*, a town of Syria, on the ſea coaſt, 20 miles SW. of Tripoli. It is ſaid to have been founded by K. Itobalus, the ally of Ahab, K. of Iſrael; and was anciently called *Botrys* or *Botryum*. See BOTRYS.

(1.) * PATRONAGE. *n. ſ.* [from *patron*.] 1. Support; protection.—Lady, how fails it out, that you, in whom all virtue ſhines, will take the *patronage* of fortune, the only rebellious handmaid againſt virtue? *Sidney.*—

Here's *patronage* and here our heart deſcries,
What breaks its bonds. *Creech.*

2. Guardianſhip of ſaints.—Among the Roman Catholicks every veſſel is recommended to the *patronage* of ſome particular ſaint. *Addiſon.* 3. Donation of a benefice; right of conferring a benefice.

(1.) PATRONAGE, [Lat. *patronatus*] or ADVOWSON, (§ 1. *def.* 3.) is a ſort of incorporeal hereditament, conſiſting in the right of PRESENTATION to a church or eccleſiaſtical benefice. Advowſon, *advocatio*, ſignifies the taking into protection; and therefore is ſynonymous with patronage, and he who has the right of advowſon is called the PATRON *of the church*. For when lords of manors firſt built churches on their own demeſnes, and appointed the tithes of thoſe manors to be paid to the officiating miniſters, which before were given to the clergy in common, the lord who thus built a church, and endowed it with a glebe or land, had of common right a power annexed of nominating ſuch miniſter as he pleaſed (provided he were canonically qualified) to officiate in that church, of which he was the founder, endower,

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maintainer, and patron. Advowſons are either advowſons *appendant*, or advowſons *in gro's*. They are alſo either *preſentative*, *collative*, or *donative*. See ADVOWSON. As the law now ſtands, if the true patron once waves his privilege of donation, and preſents to the biſhop, and his clerk is admitted and inſtituted, the advowſon becomes for ever preſentative, and ſhall never become donative any more. For theſe exceptions to general rules and common right are ever looked upon by the law in an unfavourable view, and conſtrued as ſtrictly as poſſible. If therefore the patron, in whom ſuch peculiar right reſides, does once give up that right, the law, which loves uniformity, will interpret it to be done with an intention of giving it up for ever; and will therefore reduce it to the ſtandard of other eccleſiaſtical livings. See LAW, *Part* III. *Chap.* I. *Sect.* iv. § 5—10.

(3.) PATRONAGE, ARMS OF, in heraldry, are thoſe on the top of which are ſome marks of ſubjection and dependence: thus the city of Paris lately bore the fleurs-de-lis in chief, to ſhow her ſubjection to the king; and the cardinals, on the top of their arms, bear thoſe of the pope, who gave them the hat, to ſhow that they are his creatures.

* *To* PATRONAGE. *v. a.* [from the noun.] To patroniſe; to protect. A bad word.—

Darſt thou maintain the former words thou ſpak'ſt?——

Yes, ſir, as well as yon dare *patronage*
The envious barking of your ſaucy tongue.
Shak.

An out-law in a caſtle keeps,
And uſes it to *patronage* his theft. *Shak.*

* PATRONAL. *adj.* [from *patronus*, Lat.] Protecting; ſupporting: guarding; defending; doing the office of a patron.—The name of the city being diſcovered unto their enemies, their penates and *patronal* gods might be called forth by charms. *Brown's Vulg. Err.*

* PATRONESS. *n. ſ.* [feminine of *patron*; *patrona*, Lat.] 1. A female that defends, countenances, or ſupports.—

Of cloſe eſcapes the aged *patroneſs*,
Blacker than erſt, her ſable mantle ſpred,
When with two truſty maids in great diſtreſs,
Both from niine uncle and my realm I fled.
Fairfax.

—All things ſhould be guided by her direction, as the ſovereign *patroneſs* and protectreſs of the enterpriſe. *Bacon.*—

Befriend me night, beſt *patroneſs* of grief.
Milt.

—He petition'd his *patroneſs*, who gave him for anſwer, that providence had aſſigned every bird its proportion. *L'Eſtrange.*—It was taken into the protection of my *patroneſſes* at court. *Swift.* 2. A female guardian ſaint.

* *To* PATRONISE. *v. a.* [from *patron*.] To protect; to ſupport; to defend; to countenance.—If a clergyman be looſe and ſcandalous, he muſt not be *patroniſed* nor winked at. *Bacon.*—All tenderneſs of conſcience againſt good laws, is hypocriſy, and *patroniſed* by none but men of deſign. *South.*—I have been eſteemed and *patroniſed* by the grandfather, the father, and the ſon. *Dryden.*

(1.) * PATRONYMICK. *n. ſ.* [πατρωνυμικος, *patronymique*, Fr.] Name expreſſing the name of the father or anceſtor: as, *Tydides*, the ſon of Tydeus —It ought to be rendered the ſon, Tectonides being a *patronymick*. *Broome.*

(2.) PATRONYMICS, among grammarians, are derived, 1. From the name of the father; as *Pelides*, *i. e.* Achilles the ſon of Peleus. 2. From the mother; as *Philyrides*, *i. e.* Chiron the ſon of Philyra. 3. From the grandfather on the father's ſide; as *Æacides*, *i. e.* Achilles the grandſon of Æacus. 4. From the grandfather by the mother's ſide; as *Atlantiades*, *i. e.* Mercury the grandſon of Atlas. And, 5. From the kings and founders of nations; as *Romulidæ*, *i. e.* the Romans, from their founder king Romulus. The terminations of Greek and Latin patronymics are chiefly four, viz. *des*, to which we have examples above; *as*, as *Thaumantias*, *i. e.* Iris the daughter of Thaumas; *is*, as *Atlantis*, *i. e.* Electra the daughter of Atlas; and *ne*, as *Nerine*, the daughter of Nereus. Of theſe the terminations *des* is maſculine; and *as*, *is*, and *ne*, feminine: *des* and *ne* are of the firſt declenſion, and *is* of the third. The Ruſſians, in the uſual mode of addreſs, never prefix any title or appellation of reſpect to their names; but perſons of all ranks, even thoſe of the firſt diſtinction, call each other by their Chriſtian names, to which they add a patronymic. Theſe patronymics are formed in ſome caſes by adding *Vitch* (the ſame as our Fitz, as Fitzherbert, or the ſon of Herbert) to the Chriſtian name of the father; in others by *Of* or *Ef*; the former is applied only to perſons of condition, the latter to thoſe of inferior rank. Thus, *Ivan Ivanovitch*, *Ivan Ivanof*, Ivan the ſon of Ivan, or John the ſon of John; *Peter Alexivitch*, *Peter Alexiof*, Peter the ſon of Alexis. The female patronymic is *Efna*, *Ofna*, or *Owna*, as *Sophia Alexeefna*, or *Alexiowna*, Sophia the daughter of Alexis; *Maria Ivanofna* or *Ivanowna*, Mary the daughter of John.

PATROS, a country mentioned by Jeremiah and Ezekiel, appears from the context to be a part of Egypt. Bocchart thinks it denotes Higher Egypt: the Septuagint tranſlate it the country of *Pathure*, Pliny mentions *Nomos Pathrites* in the Thebais; and Ptolemy, *Pathyris*, probably the metropolis. From the Hebrew appellation *Patros*, comes the gentilitious name PATHRUSIM. *Moſes.*

PATROUS, [Πατρωος.] a ſurname of Jupiter.

PATRU, Oliver, a counſellor in parliament and dean of the French Academy, born at Paris in 1604. He had an excellent faculty both in ſpeaking and writing. Upon his admiſſion into the French academy in 1640, he made an oration of thanks, which gave riſe to the cuſtom of miſſory ſpeeches. He died very poor on the 16th Jan. 1681. The prodigious exactneſs, with which he finiſhed every thing he wrote, did not permit him to publiſh much. His miſcellaneous works were printed at Paris in 1670, 4to; the 3d edition in 1714, 4to, was augmented with ſeveral pieces. They conſiſt of Pleadings, Orations, Letters, Eulogies of ſome of his Friends, Remarks upon the French Language, &c.

PATSCHKAU, a town of Sileſia, in Neiſſe circle, 7 miles S. of Munſterberg, and 13 W. of Neiſſe.

PATTA, or PATI, an iſland near the coaſt of Africa, about 10 miles in circumference, ch

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inhabited by Arabians, with whom the Engliſh, Portugueſe, and Indians, trade for ivory and ſlaves. It lies in the mouth of a river of the ſame name; in Lon. 41. 30. E. Lat. 1. 50. S.

PATTAN, Lelit, a city of India, in Nepal. See Nepal.

PATTANS, Patans, or Afghans, a very warlike race of men, who had been ſubjects of the vaſt empire of Bochara. They revolted under their governor Abſtagi, in the 10th century, and laid the foundation of the empire of Ghizni or Gaza. (See Gazna.) In the Diſſertation prefixed to vol. III. of Dow's Hiſtory, we have this account of the Pattans. "They are divided into diſtinct communities, each of which is governed by a prince, who is conſidered by his ſubjects as the chief of their blood, as well as their ſovereign. They obey him without reluctance, as they derive credit to their family by his greatneſs. They attend him in all his wars with the attachment which children have to a parent; and his government, though ſevere, partakes more of the rigid diſcipline of a general than the caprice of a deſpot. Rude, like the face of their country, and fierce and wild as the ſtorms which cover their mountains, they are addicted to incurſions and depredations, and delight in battle and plunder. United firmly to their friends in war, to their enemies faithleſs and cruel, they place juſtice in force, and conceal treachery under the name of addreſs." The empire which took its riſe from the revolt of the Pattans, under a ſucceſſion of warlike princes roſe to a ſurpriſing magnitude. In the beginning of the 11th century, it extended from Iſpahan to Bengal, and from the mouths of the Indus to the banks of the Jaxertes, which comprehends at leaſt half of the continent of Aſia. In the beginning of the 18th century, they had ſpread themſelves over the adjoining province of Kandahar; and ſuch was the imbecility of the Perſian empire at that time, that many other provinces and tributary ſtates were alſo induced to revolt. When the king or ſhah of that time, whoſe name was *Huſſein*, oppoſed the growing power of this warlike people, he was totally defeated, and Iſpahan was beſieged and obliged to ſurrender, after having ſuffered dreadful calamities, to an army conſiſting of only 30,000 men. In conſequence of this, they brought about a revolution in Perſia, and ſubjected it to themſelves. This ſovereignty, however, they only held for 7 years and 21 days, having fallen a ſacrifice to the enterpriſing ſpirit of Kouli Khan, or Nadir Shah. See Persia.

PATTAPOOW-Winepee, a lake of N. America. Lon. 96. 0. W. Lat. 54. 50. N.

(1.) * PATTEN. *n. ſ.* [*patin*, Fr.] A ſhoe of wood with an iron ring, worn under the common ſhoe by women, to keep them from the dirt.—Their *ſhoes* and *pattens* are ſnouted and piked more than a finger long. *Camden.*—

Good houſewives
Iſſue through the wet on clinking *pattens* tread. *Gay.*

(2.) * Patten of a pillar. *n. ſ.* Its baſe. *Ainſworth.*

* Pattenmaker. *n. ſ.* [*patten* and *maker*.] He that makes pattens.

PATTENSEN, a town of Lower Saxony, in Calenberg, 6 miles S. of Hanover.

* *To* PATTER. *v. n.* [from *patte*, Fr. the foot.] To make a noiſe like the quick ſteps of many feet.—

Pattering hail comes pouring on the main.
Dryden.

The ſtealing ſhower is ſcarce to *patter* heard.
Thomſon.

PATTERAH, a river of Aſia, which riſes in Thibet; and runs into the Ganges, on the borders of Indoſtan.

PATTERDALE, a valley of Weſtmoreland, near the Iſles.

* PATTERN. *n. ſ.* [*patron*, Fr. *patroon*, Dutch.] 1. The original propoſed to imitation; the archetype; that which is to be copied; an exemplar.—The churches of old ſhould be *patterns* for us to follow. *Hooker.*—

I will be the *pattern* of all patience. *Shak.*

A *pattern* to all princes living with her. *Shak.*—The example and *pattern* of the church of Rome. *Clarendon.*—

Loſe not the honour you have early won,
But ſtand the blameleſs *pattern* of a ſon. *Dryd.*—Meaſure the excellency of a virtuous mind; not as it is the copy, but the *pattern* of regal power. *Grew.*—*Patterns* to rule by are to be ſought for. *Davenant.*—This *pattern* ſhould be our guide. *Atterbury.*—Chriſtianity commands us to act after a nobler *pattern*, than the virtues even of the moſt perfect men. *Rogers.*

Take *pattern* by our ſiſter ſtar,
Deſude at once and bleſs our ſight. *Swift.*

2. A ſpecimen; a part ſhown as a ſample of the reſt.—A gentleman ſends to my ſhop for a *pattern* of ſtuff; if he like it, he compares the *pattern* with the whole piece, and probably we bargain. *Swift.* 3. An inſtance; an example.—What God did command, touching Canaan, concerneth not us, otherwiſe than only as a fearful *pattern* of his juſt diſpleaſure againſt ſinful nations. *Hooker.* 4. Any thing cut in paper to direct the cutting of cloth.

* *To* Pattern. *v. a.* [*patronner*, Fr. from the noun.] 1. To make in imitation of ſomething; to copy.—

Ay, ſuch a place there is, where we did hunt,
Pattern'd by that the poet here deſcribes. *Shak.*

2. To ſerve as an example to be followed. Neither ſenſe is now much in uſe.—

When I that cenſure him do ſo offend,
Let mine own judgment *pattern* out my death,
And nothing come in partial. *Shak.*

PATTERSON, a town of New Jerſey, in Bergen county, ſeated near the Great Falls of the Paſaic, 19 miles NE. of Morriſtown, 10 N. of Newark, and 100 N. by E. of Philadelphia. Lon. 0. 11. E. of that city. Lat. 40. 12. N.

(1.) PATTI, Pati, or Piatti, a ſea port town and biſhop's ſee of Sicily, in Demona, on the N. coaſt, on the Gulf of Patti; built on the ruins of Tindaro, by Earl Roger, after he had conquered the Saracens. It is 32 miles W. of Meſſina, and 40 N. of Catania. Lon. 15. 22. E. Lat. 38. 11. N.

(2, 3.) Patti, a river of Sicily, which runs into the ſea, and forms the bay or Gulf of Patti.

PATTIARY, a town of Indoſtan, in Oude;

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35 miles ENE. of Agra, and 55 NW. of Canoga.

PATTISON, William, an Engliſh poet, born at Realmarſh, in Suſſex, in 1706, and educated at Appleby, and Sidney College, Cambridge. He afterwards went to London, where he ſubſiſted by his pen, and was entertained by the celebrated Mr Curl, bookſeller, in whoſe houſe he died of the ſmall-pox, in 1727. His poems, which have merit, were publiſhed in 2 vols 8vo, 1728.

PATTMES, a town of Bavaria, 8 miles N. of Aicha, and 10 ESE. of Rain.

PATTUN, or PUTTAN, a city of Indoſtan in Guzerat, capital of a circar ſo named, 48 miles N. of Amedabad, and 132 SW. of Oudipour. Lon. 27. 30. E. Lat. 23. 45. N.

PATU, Claudius Peter, a French dramatiſt, born at Paris, in 1729. In 1754, he publiſhed a comedy, entitled *Adieux du Gout*, which had a great run. He came to England, and tranſlated ſeveral Engliſh comedies with great taſte and accuracy. He went with M. Paliſſot to Geneva, to ſee Voltaire, who received him with great kindneſs. He afterwards went to Naples and Rome, but died of a conſumption in 1757, ſoon after his return to Paris, aged 28.

(1.) PATUCKET, a village of Rhode Iſland, 4 miles NE. of Providence. It has ſeveral manufactures.

(2.) PATUCKET, or BLACKSTONE. See BLACKSTONE, N° 2.

PATULCIUS, a ſirname of Janus, from *Pateo*, to open, becauſe his temple was always open in war.

PATUXEN, or PATUXENT, a navigable river of Maryland, which riſes near the ſource of the Patapſco; and runs into the W. ſide of Cheſapeak Bay, between Drum and Hog's iſland, 30 miles S. of Annapolis.

(1.) PAU, a town of France, in the dep. of the Lower Pyrenees, ci-devant province of Gaſcony, and late territory of Bearne, with a caſtle. It was the birth place of Henry IV. It ſtands on the brow of a rock which hangs over the Gave. Several of the ancient ſovereigns of Navarre reſided and died in the caſtle. Pau is a handſome city and well built. Its population is eſtimated at 6000; but the rev. C. Cruttwell makes it 12,000. It is 97 miles S. of Bourdeaux. Lon. 0. 4. W. Lat. 43. 15. N.

(2.) PAU, or PAUW, Cornelius DE, a late celebrated German author, who wrote *Recherches Philoſophiques ſur les Americains*; and ſimilar philoſophical reſearches reſpecting the ancient Egyptians and Greeks. He was maternal uncle to the celebrated Anacharſis Cloots. See CLOOTS. He died in June 1799.

(3.) PAU, ST, a town of Spain, in Catalonia, 12 miles NW. of Gerona.

(1.) * PAVAN. PAVIN. *n. ſ.* A kind of light tripping dance. *Ainſworth*.

(2.) PAVAN, or PAVANE, a grave dance uſed among the Spaniards, and borrowed from them; wherein the performers made a kind of wheel or tail before each other, like that of *pavo*, a peacock; from whence the name is derived. The pavane was formerly in great repute; and was danced by gentlemen with cap and ſword; by thoſe of the long robe in their gowns, by princes with their mantles, and by the ladies with their gown-tails trailing on the ground. It was called the *grand ball*, from the ſolemnity with which it was performed. To moderate its gravity, it was uſual to introduce ſeveral flouriſhes paſſades, capers, &c. by way of epiſodes. Its tablature or ſcore is given at large by Thoinot Arbeau in his Orcheſography a.

PAUCAR-COLLA, a province of Buenos Ayres abounding with ſheep, and ſilver mines. Puna the capital.

PAUCAR-TAMBA, a prov. of Peru, E. of Cuſco, about 72 miles long, fertile in corn and fruit.

* PAUCILOQUY, *n. ſ.* [*pauciloquium*, Latin] Sparing and rare ſpeech. *Dict.*

* PAUCITY. [*paucitas*, from *pauci*, Lat.] 1. Fewneſs; ſmallneſs of number.—The multitude of pariſhes, and *paucity* of ſchools. *Hale*.—In ſuch ſlender corpuſcles as thoſe of colour may eaſily be conceived a greater *paucity* of protuberant corpuſcles. *Boyle*.—Socrates well underſtood what he ſaid touching the rariety and *paucity* of friends: *L'Eſtrange*. 2. Smallneſs of quantity.—This *paucity* of blood is agreeable to most other animals: as lizards, frogs, and other fiſh. *Brown*.

PAUCTON, Alexis John Peter, a learned mathematician, born near Luſſan, in 1732. His principal work was his *Metrologie*, firſt publiſhed 1780, which contains a collection of the meaſures of all countries. The aſtronomer Lalande aſſiſted him in the foreign department. This excellent work contains alſo calculations of the ancient meaſures, with diſſertations on population, agriculture, &c. He alſo publiſhed *A Theory of the Laws of Nature*, in 1781, wherein he attempted to refute the ſyſtems of Newton and Nollet. He died in 1799.

* *To* PAVE. *v. a.* [*pavio*, Lat. *paver*, Fr.] To lay with brick or ſtone; to floor with ſtone.

Should ſhe kneel down,
Her brother's ghoſt his *paved* bed would break
And take her hence in horrour. *Shak.*
—Let not the court be *paved*. *Bacon*.—
I ſee a city of more precious mold,
With ſilver *pav'd*, and all divine with gold. *Dryden*.

—The ſtreets are *paved* with brick or freeſtone. *Addiſon*. 2. To make a paſſage eaſy.—It may open and *pave* a prepared way to his own. *Bacon*.

* PAVEMENT. *n. ſ.* [*pavimentum*, Lat.] Stones or bricks laid on the ground; ſtone floor is uſed of ſtone, but *pavement* never of wood.—

The marble *pavement* cloſes, he is enter'd
Into his radiant roof. *Shak. Cymbeline*.
A broad and ample road, whoſe duſt is gold
And *pavement* ſtars ſeen in the galaxy. *Milton*.
The long laborious *pavement* here he trod. *Addiſon*.

—The foundation of Roman ways was made of rough ſtone joined together with cement; upon this was laid another layer, conſiſting of ſmall ſtones and cement, to plane the inequalities of the lower ſtratum, in which the ſtones of the upper *pavement* were fixed: for there can be no more durable *pavement*, but a double one. *Arbuthnot*.

* PAVI

* PAVER. PAVIER. *n. ſ.* [from *pave.*] One who lays with ſtones.—

For thee the ſturdy *paver* thumps the ground.
Gay.

PAVEREL, a town of Eſſex. It has a fair on Whit-Tueſday.

PAVESAN, } or PAVIA, a ci-devant duchy of
PAVESE, } Italy, now included in the Italian republic and dep. of Olona, of which it forms the ad diſtrict. It was bounded on the N. by the Milaneſe, E. by the Lodeſan and Placentin; S. by the Genoeſe territory; and W. by the Lumellin and Tortoneſe.

PAVETTA, in botany, a genus of the monogynia order, belonging to the tetrandria claſs of plants; and in the natural method ranking under the 47th order, *Stellatæ.* The corolla is monopetalous and funnel-ſhaped above: the ſtigma cleft; the berry diſpermous.

(1) PAVIA, an ancient and celebrated city of the Italian republic, in the dep. of Olona, diſtrict of Pavia, ci-devant duchy of Milan, and late capital of the Paveſan. It was anciently called TICINUM, from its ſituation on that river, and lies 20 miles S. of Milan. It was formerly the capital of the Lombard kingdom, and is ſtill remarkable for the broadneſs of its ſtreets, the beauty and richneſs of its churches, and for its univerſity, founded by Charlemagne, and for ſeveral other literary inſtitutions. Its biſhop's ſee was once the richeſt in Italy; but the city is gone to decay, its trade being ruined. The church and convent of the Carthuſians are inexpreſſibly noble, the court of the latter being one of the fineſt in the world, and ſurrounded by a portico ſupported by pillars, a mile in circumference. It is defended by ſtrong walls, large ditches, good ramparts, excellent baſtions, and a bridge over the river Teſſino. In the centre of the town is a ſtrong caſtle, where the duke of Milan was wont to reſide. There are many magnificent caſtles, and ſome colleges. It was taken by the duke of Savoy in 1706; by the French in 1733; by the French and Spaniards in 1745; but retaken by the Auſtrians in 1746. It was taken by the French republicans under Gen. Lannes, in June 1800; with 200 cannon, 8000 muskets, 2000 barrels of gun-powder and a million of cartridges. It is 17 miles S. of Milan, and 32 W. of Mantua. Lon. 9. 15. E. Lat. 45. 10. N.

(2) PAVIA, a diſtrict of the Italian republic, in the dep. of the Olona, comprehending the ci-devant PAVESE. At the general cenſus, taken on the 13th May, 1801, it contained 119,105 citizens. Pavia (N° 1.) is the capital.

(3) PAVIA, a late duchy of Italy. See PAVESE.

PAVIE, a town of France, in the dep. of the Gers: 3 miles S. of Auch.

PAVIER. See PAVER.

(1) * PAVILION. *n. ſ.* [*pavilion*, Fr.] A tent; a temporary or moveable houſe.—Flowers being under the trees, the trees were to them a *pavilion*, and the flowers to the trees a moſaical floor. *Sidney.*

She did lie
In her *pavilion*, cloth of gold, of tiſſue. *Shak.*

He, only he, heav'n's blew *pavilion* ſpreads,
And on the ocean's dancing billows treads.
Sandys.

It was uſual for the enemy, when there was a king in the field, to demand in what part of the camp he reſided, that they might avoid firing upon the royal *pavilion.* *Addiſon.*—

The glowing fury ſprings,
Once more invades the guilty dome, and ſhrouds
Its bright *pavilions* in a veil of clouds. *Pope.*

(2.) PAVILION, in architecture, ſignifies a kind of turret or building, uſually inſulated, and contained under a ſingle roof; ſometimes ſquare, and ſometimes in form of a dome: thus called from the reſemblance of its roof to a tent. Pavilions are ſometimes alſo projecting pieces, in the front of a building, marking the middle thereof; ſometimes the pavilion flanks a corner, in which caſe it is called *an angular pavilion.* The Louvre is flanked with four pavilions: the pavilions are uſually higher than the reſt of the building. There are pavilions built in gardens, commonly called *ſummer-houſes, pleaſure-houſes,* &c. Some caſtles or forts conſiſt only of a ſingle pavilion.

(3.) PAVILION, in heraldry, denotes a covering in form of a tent, which inveſts or wraps up the armories of divers kings and ſovereigns, depending only on God and their ſword. The pavilion conſiſts of two parts; the top, which is the chapeau, or coronet; and the curtain, which makes the mantle. None but ſovereign monarchs, according to the old French heralds, may bear the pavilion entire, and in all its parts. Thoſe who are elective, or have any dependence, ſay the heralds, muſt take off the head, and retain nothing but the curtains.

(4.) PAVILION, in military affairs, ſignifies a tent raiſed on poſts, to lodge under in the ſummer-time.

(5.) PAVILION is alſo ſometimes applied to flags, colours, enſigns, ſtandards, banners, &c.

(6.) PAVILIONS, among jewellers, the underſides and corners of the brilliants, lying between the girdle and the collet.

* *To* PAVILION. *v. a.* [from the noun.] 1. To furniſh with tents.—

Jacob in Mahanaim ſaw
The field *pavilion'd* with his guardians bright.
Milton.

2. To be ſheltered by a tent.—

With his batt'ning flocks the careful ſwain
Abides *pavilion'd* on the graſſy plain.

PAVILLAC, a town of France, in the dep. of Gironde, 10½ miles SE. of Leſparre, and 24 N. of Bourdeaux.

PAVILLON, Stephen, a French lawyer, born at Paris, in 1652. He was advocate general to the Parliament of Metz, and was admitted a member of the French Academy, and of thoſe of Inſcriptions and Belles Lettres. He had a penſion of 2000 livres from Lewis XIV; and died in 1725, aged 73.

PAVILLY, a town of France, in the dep. of Lower Seine; 9 miles NW. of Rouen, and 9 ENE. of Caudebec.

PAVIN. See PAVAN, N° 1.

PAVING, *n. ſ.* the conſtruction of ground-floors, ſtreets, or highways, in ſuch a manner that they may be conveniently walked upon. In Britain, the pavement of the grand ſtreets, &c. are uſually of flint, or rubble-ſtone; courts, ſtables, kitchens, halls, churches, are paved with tiles, bricks,

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bricks, flags, or fire-ſtone; ſometimes with a kind of free-ſtone and rag-ſtone. In ſome ſtreets, *e. g.* of Venice, the pavement is of brick: churches ſometimes are paved with marble, and ſometimes with moſaic work, as the church of St Mark at Venice. In France, the public roads, ſtreets, courts, &c. are all paved with gres or gritt, a kind of free-ſtone. In Amſterdam and the chief cities of Holland, they call their brick pavement the *burgher-maſter's pavement*, to diſtinguiſh it from the ſtone or flint pavement, which uſually takes up the middle of the ſtreet, and which ſerves for carriages; the brick which borders it being deſtined for the paſſage of people on foot. Pavements of free-ſtone, flint, and flags, in ſtreets, &c. are laid dry, *i. e.* in a bed of ſand; thoſe of courts, ſtables, ground-rooms, &c. are laid in a mortar of lime and ſand; or in lime and cement, eſpecially if there be vaults or cellars underneath. Some maſons, after laying a floor dry, eſpecially of brick, ſpread a thin mortar over it; ſweeping it backwards and forwards to fill up the joints. The ſeveral kinds of pavement are as various as the materials of which they are compoſed, and whence they derive the name by which they are diſtinguiſhed; as,

1. PAVING, GRANITE. Granite is a hard material, abounding in Scotland, of a reddiſh colour, very ſuperior to the blue whynn quarry, and at preſent much uſed in London. See GRANITE.

2. PAVING, GUERNSEY, is the beſt, and very much in uſe; it is the ſame ſtone with the pebble, (ſee N° 6.) but broken with iron hammers, and ſquared to any dimenſions required of a priſmoidical figure, ſet with its ſmalleſt baſe downwards. The whole of the foregoing paving ſhould be bedded and paved in ſmall gravel.

3. PAVING, KNOB, is done with large gravel-ſtones, for porticoes, garden-ſeats, &c.

4. PAVING, MARBLE, is moſtly variegated with different marbles, ſometimes inlaid in moſaic.

5. PAVING OF CHURCHES, &c. is often performed with ſtones of ſeveral colours; chiefly black and white, and of ſeveral forms, but chiefly ſquares and lozenges, artfully diſpoſed. Indeed, there needs no great variety of colours to make a ſurpriſing diverſity of figures and arrangements. M. Truchet, in the Memoirs of the French Academy, has ſhown by the rules of combination, that two ſquare ſtones, divided diagonally into two colours, may be joined together chequerwiſe 64 different ways: which appears ſurpriſing enough; ſince two letters or figures can only be combined two ways. The reaſon is, that letters only change their ſituation with regard to the firſt and ſecond, the top and bottom remaining the ſame; but in the arrangement of theſe ſtones, each admits of four ſeveral ſituations, in each whereof the other ſquare may be changed 16 times, which gives 64 combinations. (See CHANGE, § 2.) Indeed, from a farther examination of theſe 64 combinations, he found there were only 32 different figures, each figure being repeated twice in the ſame ſituation, though in a different combination; ſo that the two only differed from each other by the tranſpoſition of the dark and light parts.

6. PAVING, PEBBLE, is done with ſtones collected from the ſea-beach, moſtly brought from the iſlands of Guernſey and Jerſey: they are durable, indeed the moſt ſo of any ſtone uſed this purpoſe. They are uſed of various ſizes, thoſe, which are from ſix to nine inches deep, eſteemed the moſt ſerviceable. When they about 3 inches deep, they are denominated *bo* or *bowlers*; theſe are uſed for paving court-y and other places not accuſtomed to receive ages with heavy weights; when laid in geom cal figures, they have a very pleaſing appear

7. PAVING, PORTLAND, is done with ſtone the iſland of Portland; ſometimes ornam with black marble dots.

8. PAVING, PURBECK, for footways, is i neral got in large ſurfaces about 2½ inches t the blue ſort is the hardeſt and the beſt o kind of paving. See N° 15.

9. PAVING, RAG, was much uſed in Lo but is very inferior to the pebbles; it is dug vicinity of Maidſtone in Kent, from which the name of *Kentiſh rag-ſtone*; there are ſq ſtones of this material for paving coach-track foot-ways.

10. PAVING, RYEGATE, or FIRE-STONE, i for hearths, ſtoves, ovens, and ſuch places liable to great heat, which does not affect the if kept dry.

11. PAVING, SQUARED, for diſtinction by called *Scotch paving*, becauſe the firſt of the paved in the manner that has been and con to be paved, came from Scotland; the firſt clear cloſe ſtone, called *blue whynn*, which i diſuſed, becauſe it has been found inferior thers ſince introduced. See § 1, 2, 4, 7, 8, 1 17.

12. PAVING, SWEDLAND, is a black flat in Leiceſterſhire, and looks well for paving or in party-coloured paving.

13. PAVING WITH BRICKS. 1. *Flat bri ving*, is done with brick laid in ſand, mort groute, as when liquid lime is poured in joints. 2. *Brick-on-edge paving*, done with laid edge-wiſe in the ſame manner. 3. Bric alſo laid flat or edgewiſe in herring-bon Bricks are alſo ſometimes ſet endwiſe in mortar, or groute. 5. Paving is alſo perf with paving bricks.

14. PAVING WITH NEW-CASTLE FLAG ſtones about two feet ſquare, and 1½ or two thick; they anſwer very well for paving fices: they are ſomewhat like the Yorkſhire

15. PAVING WITH PURBECK PITCHENS; ſtones uſed in footways; they are brought the iſland of Purbeck, and alſo frequently court-yards; they are in general from ſix inches ſquare, and about five inches deep.

16. PAVING WITH TILES, &c. 1. Wi inch tiles: 2. With foot tiles: 3. With c for ſtables and outer offices: 4. With the of animals, for gardens, &c.

17. PAVING, YORKSHIRE. Yorkſhire affo exceeding good material for foot-ways, an got of almoſt any dimenſions, of the ſame neſs as the Purbeck. This ſtone will not the wet to paſs through it, nor is it affec the froſt.

PAUKATUCK, a river of the United which forms part of the line of diviſion b Conn

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Connecticut and Rhode Island, and falls into Stonington harbour.

(n) PAUL, formerly named SAUL, was of the tribe of Benjamin, a native of Tarsus in Cilicia, a Pharisee by profession; first a persecutor of the church, and afterwards a disciple of Jesus Christ, and apostle of the Gentiles. It is thought he was born about two years before our Saviour, supposing that he lived 68 years, as is mentioned in a note in the fifth volume of St Chrysostom's works. He was a Roman citizen, because Augustus had given the freedom of the city to all the citizens of Tarsus, in consideration of their firm adherence to his interests. His parents sent him early to Jerusalem, where he studied the law at the feet of Gamaliel, a famous doctor. He made very great progress in his studies, and his life was always blameless before men; being very zealous for the whole observation of the law of Moses. But his zeal carried him too far; he persecuted the church, and when the protomartyr St Stephen was stoned, Saul was not only consenting to his death, but he even took care of the clothes of those that stoned him. This happened A. D. 33, a short time after our Saviour's death. After the death of St Stephen, Saul showed the utmost violence in distressing the Christians; and having got credentials from the high-priest Caiaphas, and the elders of the Jews, to the chief Jews of Damascus, with power to bring to Jerusalem all the Christians he should find there, he went away full of threats, and breathing nothing but blood. But as he was upon the road, and drawing near to Damascus, all on a sudden about noon, he perceived a great light to come from heaven, which encompassed him and all those that were with him. This light threw them on the ground; and Saul heard a voice saying to him, "Saul, Saul, why persecutest thou me?" His answer, with his blindness, his cure, and the other surprising circumstances that followed, and issued in his conversion, is recorded in the 9th chapter of the Acts. But the conversion of such a man, at such a time, and by such means, furnishes one of the most complete proofs that have ever been given of the divine origin of our holy religion. That Saul, from being a furious persecutor of the disciples of Christ, became all at once a disciple himself, is a fact which cannot be controverted without overturning the whole of all history. He must therefore have been converted in the miraculous manner in which he himself said he was, and of course the Christian religion be a divine revelation, or he must have been either an impostor, an enthusiast, or a dupe to the fraud of others. There is not another alternative possible. If he was an impostor, who declared what he knew to be false, he must have been induced to act that part by some motive: (See MIRACLE.) But the only conceivable motives to such an impostures are, the hopes of advancing his temporal interest, credit, or power; or the hope of gratifying some passion or appetite under the authority of the new religion. That none of these could be St Paul's motive, for professing the faith of Christ crucified, is plain from the state of Judea and Christianity at the period of his forsaking the former and embracing the latter state. Those whom he left were the dispossers of wealth, of dignity, of power, in Judea: those to whom he went were indigent men, oppressed, and kept from all means of improving their fortunes. The certain consequence therefore of his taking the part of Christianity was the loss not only of all that he possessed, but of all hopes of acquiring more; whereas, by continuing to persecute the Christians, he had hopes rising almost to a certainty of making his fortune by the favour of those who were at the head of the Jewish state, to whom nothing could so much recommend him as the zeal which he had shown in that persecution. As to credit or reputation, could the scholar of Gamaliel hope to gain either by becoming a teacher in a college of fishermen? Could he flatter himself, that the doctrines which he taught would, either in or out of Judea, do him honour, when he knew that "they were to the Jews a stumbling block, and to the Greeks foolishness?" Was it then the love of power that induced him to make this great change? Power! over whom? over a flock of sheep whom he himself had assisted to destroy, and whose very Shepherd had lately been murdered! Perhaps it was with the view of gratifying some licentious passion, under the authority of the new religion, that he commenced a teacher of that religion! This cannot be alleged; for his writings breathe nothing but the strictest morality, obedience to magistrates, order, and government, with the utmost abhorrence of all licentiousness, idleness, or loose behaviour, under the cloke of religion. We nowhere find in his works, that saints are above moral ordinances; that dominion is founded in grace; that monarchy is despotism which ought to be abolished; that the fortunes of the rich ought to be divided among the poor; that there is no difference in moral actions; that any impulses of the mind are to direct us against the light of our reason and the laws of nature; or any of those wicked tenets by which the peace of society has been often disturbed, and the rules of morality often broken, by men pretending to act under the sanction of divine revelation. He makes no distinctions like the impostor of Arabia in favour of himself; nor does any part of his life, either before or after his conversion to Christianity, bear any mark of a libertine disposition. As among the Jews, so among the Christians, his conversation and manners were blameless.—It has been sometimes objected to the other apostles, by those who were resolved not to credit their testimony, that, having been deeply engaged with Jesus during his life, they were obliged, for the support of their own credit, and from having gone too far to return, to continue the same profession after his death; but this can by no means be said of St Paul. On the contrary, whatever force there may be in that way of reasoning, it all tends to convince us, that St Paul must *naturally* have continued a Jew, and an enemy to Christ Jesus. If *they* were engaged on one side, *he* was as strongly engaged on the other. If shame withheld them from changing sides, much more ought it to have stopped him; who, from his superior education, must have been vastly more sensible to that kind of shame, than the mean and illiterate fishermen of Galilee. The only other difference was, that *they*, by quitting their master after his death, might have

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have preſerved themſelves; whereas *he*, by quitting the Jews, and taking up the croſs of Chriſt, certainly brought on his own deſtruction. As St Paul was not an impoſtor, ſo it is plain he was not an enthuſiaſt. Heat of temper, melancholy, ignorance, and vanity, are the ingredients of which enthuſiaſm is compoſed; but from all theſe, except the firſt, the apoſtle appears to have been wholly free. That he had great fervour of zeal, both when a Jew and when a Chriſtian, in maintaining what he thought to be right, cannot be denied; but he was at all times ſo much maſter of his temper, as, in matters of indifference, to "become all things to all men," with the moſt pliant condeſcenſion, bending his notions and manners to theirs, as far as his duty to God would permit; a conduct compatible neither with the ſtiffneſs of a bigot, nor with the violent impulſes of fanatical deluſion. That he was not melancholy, is plain from his conduct in embracing every method which prudence could ſuggeſt to eſcape danger and ſhun perſecution, when he could do it without betraying the duty of his office or the honour of his God. A melancholy enthuſiaſt courts perſecution; and when he cannot obtain it, afflicts himſelf with abſurd penances: but the holineſs of St Paul conſiſted only in the ſimplicity of a godly life, and in the unwearied performance of his apoſtolical duties. That he was ignorant, no man will allege who is not groſsly ignorant himſelf; for he appears to have been maſter not only of the Jewiſh learning, but alſo of the Greek philoſophy, and to have been very converſant even with the Greek poets. That he was not credulous, is plain from his having reſiſted the evidence of all the miracles performed on earth by Chriſt, as well as thoſe that were afterwards wrought by the apoſtles; to the fame of which, as he lived in Jeruſalem, he could not poſſibly have been a ſtranger. And that he was as free from vanity as any man that ever lived, may be gathered from all that we ſee in his writings, or know of his life. He repreſents himſelf as the leaſt of the apoſtles, and not meet to be called an apoſtle. He ſays that he is the chief of ſinners; and he prefers, in the ſtrongeſt terms, univerſal benevolence to faith, prophecy, miracles, and all the gifts and graces with which he could be endowed. Is this the language of vanity or enthuſiaſm? Did ever fanatic prefer virtue to his own religious opinions, to illuminations of the ſpirit, and even to the merit of martyrdom? Having thus ſhown that St Paul was neither an impoſtor nor an enthuſiaſt, it remains only to be inquired, whether he was deceived by the fraud of others: but this inquiry needs not be long, for who was to deceive him? A few illiterate fiſhermen of Galilee: It was *morally* impoſſible for ſuch men to conceive the thought of turning the moſt enlightened of their opponents, and the cruelieſt of their perſecutors, into an apoſtle, and to do this by fraud in the very inſtant of his greateſt fury againſt them and their Lord. But could they have been ſo extravagant as to conceive ſuch a thought, it was *phyſically* impoſſible for them to execute it in the manner in which we find his converſion to have been effected. Could they produce a light in the air, which at mid-day was brighter than the ſun? Could they make Saul hear words from out of that light, which were not heard by the r of the company? Could they make him blind three days after that viſion, and then make ſca fall off from his eyes, and reſtore him to ſight a word? Or could they make him and thoſe w travelled with him believe, that all theſe thi had happened, if they had not happened? M unqueſtionably no fraud was equal to all t Since then St Paul was neither an impoſ nor an enthuſiaſt, nor deceived by the fraud others, it follows that his converſion was m culous, and that the Chriſtian religion is a di revelation. See Lord LYTTLETON's *Obſervat on the Converſion of St Paul*; a treatiſe to whic has been truly ſaid, that infidelity has never b able to fabricate a ſpecious anſwer, and of wh this is a very ſhort and imperfect abridgmen The eſcape of St Paul from Damaſcus, where Jews had influenced the governor to ſeize h his meeting at Jeruſalem with the diſciples, were ſtill afraid of him; the plot of the Jew kill him; his journey to Cæſarea, and thenc Tarſus, where he continued from A. D. 37 to his journey thence with Barnabas to Antioch, from that city to Jeruſalem, with ſupplies to diſciples during the famine, A. D. 44. whe met with the prophets, Simeon, Lucius, and naen, and when he is ſuppoſed to have had hi effable viſion of heaven; (2 Cor. xii, 2-4.) his j ney with Barnabas to Cyprus; the oppoſitio Barjeſus; his blindneſs; the converſion of Se Paulus, A. D. 45; the change of Saul's name Paul; his journey to Perga, and preaching i ſynagogues there, as well as Antioch, Icon Lyſtra and Derbe; the miracles he wrought perſecutions he ſuffered at theſe places; his very after being ſtoned, and ſuppoſed dead diſſenſion about circumciſion at Antioch; hi ſion with Barnabas to Jeruſalem for the op of the other apoſtles on this ſubject, with the ciſion; his cenſure of St Peter for his diſſimul his ſeparation from Barnabas, and junctio Silas; their journey through Lycaonia, Ph Galatia, Myſia, Troas, to Macedonia; thei priſonment, &c. at Philippi; the converſi Lydia and the jailor, and their ſpirited expo tion with the magiſtrates; their journey th Amphipolis and Apollonia, to Theſſalonic Berea; the tumults raiſed by the Jews a them in theſe cities; Paul's voyage to Athe D. 52; his diſputes there with the philoſo his defence before the Areopagus; the conv of Dionyſius and Damaris; his journey to C where he continued 8 months; and when from Athens, he wrote his two epiſtles Theſſalonians; his accuſation before Gallic acquittal; his voyage to Epheſus, Cæſare Jeruſalem; his journey through Antioch, G Phrygia, and the higher provinces of Aſia; turn to Epheſus, where he continued 3 from A. D. 54, to 57; wrote his epiſtle Galatians, and performed many miracles where he ſays, he alſo fought with *beaſts* whether he did this literally in the amphith in conſequence of a ſentence of the heathe giſtrates, or whether the expreſſion is only taphorical alluſion to the ſcuffle he had wit metrius and the ſilver-ſmiths, commentato

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not agreed: His journey after this to Philippi in Macedonia along with Timothy, whence he wrote his two epistles to the Corinthians; thence to Achaia, Corinth, Assos, Mitylene, Miletus, Coos, Rhodes, Patara, Tyre, Ptolemais, and Cæsarea; where he met with Philip the evangelist, and the prophet Agabus, who foretold his future sufferings; His journey thence to Jerusalem, where by the advice of St James, he took the vow of a Nazarite; the riot raised in the temple against him by the Jews; his rescue from their fury by Lysias; his unjust treatment by Ananias the high priest; the division between the Pharisees and Sadducees respecting him; the bloody vow of the Jewish assassins to murder him; his transmission to Felix by Lysias, his accusation by Tertullus, and his animated defence; the injustice of Felix; Paul's spirited oration before Festus and AGRIPPA; its effect upon the latter; Paul's appeal to Cæsar, and consequent voyage from Adramyttium over the sea of Cilicia and Pamphylia, to Myra, and thence to Crete; the storm of 14 days; the shipwreck on the coast of Malta, with all the interesting particulars attending it; the cure of Publius, &c. Paul's re-embarkation and voyage to Syracuse, Rhegium, and Puteoli, with his final arrival at Rome, and reception there by his countrymen, are all fully recorded by St Luke, in the Acts of the Apostles, from chap. ix. to xxviii. Paul dwelt for two whole years at Rome, from A. D. 61 to 63, in a hired lodging; where he received all that came to him, preaching the religion of Jesus Christ, without interruption. His captivity contributed greatly to the advancement of religion; for he converted several persons even of the emperor's court. (Philip. i. 12—18. and iv. 22.) The Christians of Philippi, hearing that St Paul was a prisoner at Rome, sent Epaphroditus to him, with money, to assist him in their name. (Phil. ii. 25.) Epaphroditus fell sick at Rome; and when he went back to Macedonia, the apostle sent by him his Epistle to the Philippians. It is not known by what means St Paul was delivered from his prison, but it is certain that he was set at liberty, after having been two years a prisoner at Rome. He wrote also, during this imprisonment, his Epistles to Philemon and the Colossians. He was still in Rome, or at least in Italy, when he wrote his Epistle to the Hebrews. He travelled over Italy; according to some of the fathers, passed into Spain; then into Judea; went to Ephesus, and left Timothy; (Heb. xiii. 24. and 1 Tim. i. 3.) passed in Crete, and there fixed Titus, to cultivate the church in that place. Probably he might visit the Philippians; (Phil. i. 23, 26. and ii. 24.) and it is believed, that it was from Macedonia he wrote the First Epistle to Timothy.—Some time after, he wrote to Titus, whom he left in Crete; desiring him to come to Nicopolis, whence, probably, he sent this letter. The following, that is A. D. 65, he went into Asia, and came to Troas. (2 Tim. iv. 13.) Thence he went to visit Timothy at Ephesus, and from thence to Miletus. (2 Tim. iv. 20.) Lastly, he went to Rome; and St Chrysostom says, that it was reported, that having converted a cup-bearer and a eunuch of Nero, this so provoked the Emperor, that he caused St Paul to be apprehended, and put in prison. It was in this last place of confinement, that he wrote his 2d Epistle to Timothy; which Chrysostom looks upon as the apostle's last testament. See TIMOTHY and TITUS. This great apostle at last consummated his martyrdom; the 29th of June, A. D. 66, by having his head cut off, at a place called the *Salvian Waters*. He was buried on the way of Ostium, and a magnificent church was built over his tomb, which is still in existence. *Calmet's Dict.* &c.

(2.) PAUL, first bishop of Narbonne, or SERGIUS PAULUS the proconsul, converted and made bishop by St Paul, was descended from one of the best families of Rome. It is said the apostle called himself *Paul* from his name. The Spaniards venerate him as their apostle; and say he died a martyr at Narbonne.

(3.) PAUL I. Pope of Rome, succeeded his brother Stephen II. A. D. 757; governed with great moderation, and died in 767.

(4.) PAUL II. Pope, a noble Venetian, was nephew of Pope Eugene IV. who made him a cardinal in 1440. He was elected pope in 1464, and died in 1471, aged 54.

(5.) PAUL III. Pope, whose original name was Alexander Farnese, was born in 1467, and elected pope, in 1534. He established the inquisition, approved of the Society of the Jesuits, and acted with great violence against Henry VIII. of England. The famous council of Trent was held in his reign. He died in 1549, aged 82.

(6.) PAUL IV. Pope, whose original name was John Peter Caraffa, was born in 1475. He was a learned man, and wrote on the Creed and other subjects; but was very violent against the reformers. He was elected pope in 1555, when he was 80, and died in 1559, aged 84.

(7.) PAUL V. Pope, was born in 1552, at Rome; was first clerk of the chamber, and afterwards nuncio to Clement VIII. in Spain, who made him a cardinal. He was elected pope on the 16th May 1605, after Leo XI. The ancient quarrel between the secular and ecclesiastical jurisdictions, which formerly had occasioned much bloodshed, revived in his reign. The senate of Venice had condemned by two decrees, 1. The new foundations of monasteries made without their concurrence. 2. The alienation of the estates both ecclesiastical and secular. The first decree passed in 1603, and the 2d in 1605. About this time a canon and abbot, accused of rapine and murder, were arrested by order of the senate, and delivered over to the secular court; which gave offence to the court of Rome. Clement VIII. took no notice of the affair; but Paul V. who had managed the Genoese upon a similar occasion, hoped that the Venetians would be equally pliant. But the senate maintained that they held their power to make laws of God only; and therefore refused to revoke their decrees, and deliver up the ecclesiastical prisoners to the nuncio. Paul, provoked at this behaviour, excommunicated the doge and senate; and threatened to put the whole state under an interdict, if satisfaction was not given him within 24 hours. The senate protested against this menace, and forbad the publication of it in their dominions. A number of pamphlets were published on both sides. The Capuchins, Theatins, and

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Jesuits, were the only religious orders who observed the interdict. The senate shipped them all off for Rome, and banished the Jesuits for ever. Meantime Paul was preparing to make the refractory republic submit to his tyranny by force of arms. He levied troops against the Venetians; but he soon found his design baulked, as the cause of the Venetians appeared to be the common cause of all princes. He had recourse, therefore, to Henry IV. to settle the differences; who soon brought about a reconciliation. His ambassadors at Rome and Venice began the negociation, and Card. de Joyeuse finished it in 1607. Paul was strongly solicited to make *the immaculate conception of the holy virgin* an article of faith, but he only prohibited the contrary doctrine to be publickly taught. He afterwards embellished Rome, and collected the works of the most eminent painters and engravers. Rome is indebted to him for its most beautiful fountains, especially that where the water spouts out from an antique vase taken from the hot baths of Vespasian, and the *aqua Paola*, an ancient work of Augustus, restored by Paul V. He brought water into it by an aqueduct 35 miles long. He completed the frontispiece of St Peter, and the magnificent palace of Mount Cavallo. He also restored and repaired several ancient monuments. His pontificate was honoured with several illustrious embassies. The kings of Japan, Congo, and other Indian princes, sent ambassadors to him. He sent missionaries, and founded bishopricks in these countries. He showed the same attention to the Maronites and other eastern Christians. He also sent legates to different orthodox princes. He died 28th Jan. 1621, aged 69; after having confirmed the French Oratory, the Ursulines, the Order of Charity, and some other institutions. He enjoined all the religious in the prosecution of their studies to have regular professors for Latin, Greek, Hebrew, and Arabic.

(8.) PAUL, Father, whose name, before he entered into the monastic life was *Peter Sarpi*, was born at Vienna, Aug. 14, 1552. His father was a merchant, who died leaving his family unprovided for, but his uncommon abilities under the tuition of a maternal uncle rendered him master of languages and science at a very early age. At 14 he took the habit of the order of the Servites, and at 22 was made a priest. After passing successively through the dignities of his order, he was chosen provincial for Venice at 26 years of age; and discharged this post with such honour, that in 1579 he was appointed, with two others, to draw up new regulations and statutes. This he executed with great success; and when his office of provincial was expired, he retired to the study of experimental philosophy and anatomy, in which he is said to have made some useful discoveries. In the dispute between the pope and the senate of Venice, (see PAUL V.) his controversial writings irritated the papal court so highly, that they hired assassins to murder him, but he escaped with severe wounds. This, and other attempts upon his life, obliged him to confine himself to his convent, where he engaged in writing the *History of the Council of Trent*, on which, and other works of less consequence, he spent the remaining part of his life. He died on Saturday the 14th Jan. 1623. He was buried with great pomp at the public charge, a magnificent monument was erected to his memory.

(9.) PAUL, Mark. See PAULO.

(10.) PAUL of Samosata. See PAULUS, N°

(11.) PAUL, late emperor of Russia, the son the unfortunate Peter III. by Catherine II. born Oct. 1, 1754; and married Oct. 10, 1 to Wilhelmina, daughter of Lewis, landgrav Hesse-Darmstadt, who died in childbed April 1776, without leaving issue. He next mar Oct. 7th 1776, Sophia Augusta Dorothea, dat ter of Pr. Charles of Wirtemberg, by whom had Alexander, the present emperor, Constan Alexandra, Helen, and Anne. He took an ac part in the late war; but was murdered on 23d March, 1801. See RUSSIA.

(12.) PAUL, in sea language, is a short ba wood or iron, fixed close to the capstern or w las of a ship, to prevent those engines from rol back or giving way, when they are employe heave in the cable, or otherwise charged with great effort.

(13.) PAUL, in geography, a town of Yorks seated on the Humber, S. of Headon.

(14.) PAUL, ST, a province of S. America Brazil, which is a kind of independent repub originally colonized, in 1570, by a set of ban of several nations, who were transported from tugal; and the country being surrounded thick forests and inaccessible mountains, they threw off all dependence on the mother cou However they now pay a small tribute of go Portugal. The climate is excellent.

(15.) PAUL, ST, the capital of the above re lic, was built in 1570; and lies 12 miles from coast, and 210 W. of Janeiro. Lon. 45. 52. W. 23. 25. S.

(16.) PAUL, ST, a town in the isle of B bon.

(17.) PAUL, ST, an island in the Indian Oc Lon. 61. 2. E. Lat. 37. 51. S.

(18.) PAUL, ST, an island in the Gulf of St L rence; 9 miles NE. of Cape Breton.

(19.) PAUL, ST, a town of Malta; 6 miles N of Malta.

(20.) PAUL, ST, CAVE, or GROTTO OF, a p in the island of Malta, where St Paul and his c pany took shelter from the rains, when the v fastened on his arm. Upon this spot there church built by the famed Alof, de Vignac grand-master of the order, in 1606, a very h some small structure.

(21—25.) PAUL, ST, is also the name of 5 to in the over-grown, and now *imperial* Frenc public; viz. 1. in the dep. of Mont Blanc, Savoy, and ci-devant duchy of Chablais, on lake of Geneva, 10 miles E. of Tonan: 2. in of the Gard, 10 miles NE. of Uzes: 3. in th the Straits of Calais, and late prov. of Artois miles from Arras; Lon. 2. 30. E. Lat. 50. 24 4. in that of Tarn, 9 miles NW. of Caune: that of Upper Vienne; 6 miles S. of St Leo and 9 SE. of Limoges. It also makes part o name of other 6 French towns: viz.

(26.) PAUL, ST, DE FENOUILLEDES, in dep. of the Eastern Pyrenees, according to C well, but Brookes places it in that of Gard,

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late prov. of Languedoc, on the Egli, among the mountains; 30 miles N. of Montpellier. Lon. 3. 38. E. Lat. 44. 7. N.

(27.) PAUL, ST, DE TORRÒT, in the dep. of the Ariege; 4½ miles NNE. of Taraſcon, and 12 SW. of Mirepoix.

(28.) PAUL, ST, EN JÒREST, in the department of Haute and Loire, 18 miles SSW. of Lyons.

(29.) PAUL, ST, LES ROMANS, in the department of Drome, and diſt. of Romans; 4½ miles S. of Romans.

(30.) PAUL, ST, LES VENCES, in the dep. of the Var, and ci-devant prov. of Provence; 7 miles W. of Nice, 9 ENE. of Graſſe, and 430 SE. of Paris. Lon. 7. 13. E. Lat. 43. 42. N.

(31.) PAUL, ST, TROIS CHATEAUX, in the dep. of Drome, and late prov. of Dauphiny, 12 miles S. of Montelimart, and 13½ N. of Orange.

(32.) PAULA, a learned Roman lady, who flourished in the 4th century. She was deſcended from the Scipios and the Gracchi, and added to the brighteſt qualities of the mind the virtues of humanity. She was well verſed in the Hebrew tongue, and was the intimate friend of St Jerom. She died A. D. 407.

(33.) PAULA, in geography, a town of the Italian territories, in the dep. of the Croſtolo, and ci-devant duchy of Reggio.

(34.) PAULA, a town of Naples, in Calabria Citra, near the coaſt; 12 miles NW. of Coſenza. Lon. 16. 9. E. Lat. 39. 24. N.

(35.) PAULA, ST, an iſland of Ruſſia, in the Frozen ſea. Lon. 121. 0. E. Ferro. Lat. 76. 54. N.

(36.) PAULA, a fort of Ruſſia, in Caucaſus.

(37.) PAULAR, a town of Spain, in Old Caſtile; 11 miles NE. of Segovia.

(38.) PAULEYS, a town of S. Carolina; 8 miles S. of Georgetown.

PAULHAC, a town of France, in the department of the Cantal; 10 miles W. of St Flour.

PAULHAN, a town of France, in the department of Herault; 9 miles N. of Pezenas.

PAULHIAC, a town of France, in the dep. of Lot and Garrone; 6 miles SSE. of Villereal.

PAULI, Simon, phyſician to Frederick III. K. of Denmark. He publiſhed *Flora Danica*; and a treatiſe on the uſe and abuſe of Tobacco and Opium. He died in 1682, aged 77.

PAULIAGUET, a town of France, in the dep. of Upper Loire; 7½ miles SE. of Brioude, and 12 S. of Puy.

PAULIANISTÆ, } a ſect of heretics, ſo called
PAULIANISTS, } from their founder PAULUS SAMOSATENUS, a native of Samoſata, elected archbiſhop of Antioch in 262. His doctrine amounted to this: that the Son and the Holy Spirit in God in the ſame manner as reaſon and wiſdom do in man; that Chriſt was born a mere man; but that the reaſon or wiſdom of the Father deſcended into him, and by him wrought miracles upon earth, and inſtructed the nations; and, laſtly, that, on account of this union of the divine Word with the man Jeſus, Chriſt might, though improperly, be called God. He did not baptize in the name of the Father and the Son, for which reaſon the council of Nice ordered thoſe baptized by him to be re-baptized. He was condemned by Dionyſius Alexandrinus in a council, he abjured his errors, to avoid depoſition; but ſoon after reſumed them, and was depoſed by another council in 269.—He may be conſidered as the father of the modern Socinians; and his errors are ſeverely condemned by the council of Nice, whoſe creed differs a little from that now uſed, under the ſame name, in the church of England.

PAULICIANS, a branch of the ancient Manichees, ſo called from their founder, one PAULUS, an Armenian, in the 7th century; who, with his brother John, both of Samoſata, formed this ſect: though others are of opinion, that they were thus called from another PAULUS, an Armenian by birth, who lived in the reign of Juſtinian II. In the 7th century, a zealot called Conſtantine revived this drooping ſect, which was ready to expire under the ſeverity of the imperial edicts. The Paulicians, however, by their numbers, and the countenance of the emperor Nicephorus, became formidable to all the Eaſt. But the cruel rage of perſecution, which had for ſome years been ſuſpended, broke forth with redoubled violence in the reigns of Michael Curopalates and Leo the Armenian, who inflicted capital puniſhment on ſuch of the Paulicians as refuſed to return into the boſom of the church. Under the empreſs Theodora, tutoreſs of the Emp. Michael, in 845, ſeveral of them were put to death, and more retired among the Saracens; but they were neither all exterminated nor baniſhed. Upon this they entered into a league with the Saracens; and chooſing for their chief an officer of the greateſt reſolution and valour, whoſe name was *Carbeas*, they declared againſt the Greeks a war, which was carried on for 50 years with the greateſt vehemence and fury. During theſe commotions, ſome Paulicians, towards the concluſion of this century, ſpread abroad their doctrines among the Bulgarians; many of them, either from zeal, or to avoid perſecution, retired, about the cloſe of the 11th century, from Bulgaria and Thrace, and formed ſettlements in other countries. Their firſt migration was into Italy; whence they ſent colonies into moſt of the other provinces of Europe, and formed gradually a conſiderable number of religious aſſemblies, who adhered to their doctrine, and who were afterwards perſecuted with the utmoſt vehemence by the Roman pontiffs. In Italy they were called *Patarini*, from *Pataria*, in Milan, where they held their aſſemblies; and *Gathari* or *Gazari*, from Gazaria, or the Leſſer Tartary. In France they were called *Albigenſes*, though their faith differed widely from that of the Albigenſes, whom Proteſtant writers generally vindicate. (See ALBIGENSES.) The firſt religious aſſembly the Paulicians formed in Europe, was at Orleans in 1017, in the reign of Robert, when many of them were burnt alive. The ancient Paulicians, according to Photius, expreſſed the utmoſt abhorrence of Manes and his doctrine. The Greek writers compriſe their errors under the ſix following particulars; 1. They denied that this inferior and viſible world is the production of the ſupreme Being; and they diſtinguiſh the Creator of the world and of human bodies from the moſt high God who dwells in the heavens; and hence ſome think that they

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were a branch of the Gnostics rather than of the Manichæans. 2. They refused to worship the Virgin Mary. 3. They refused to celebrate the institution of the Lord's supper. 4. They refused to follow the practice of the Greeks, who paid to the pretended wood of the cross a sort of religious homage. 5. They rejected the books of the Old Testament; and looked upon the writers of that sacred history as inspired by the Creator of this world, and not by the supreme God. 6. They excluded presbyters and elders from all part in the administration of the church.

PAULIEN, St, a town of France, in the dep. of Upper Loire; 6 miles NNW. of Puy, and 21 SE. of Brioude.

PAULIN, a town of France, in the department of the Tarn; 12 miles E. of Alby.

(1.) PAULINA, a Roman lady, wife of Saturninus, governor of Syria, in the reign of the emperor Tiberius. Her conjugal peace was disturbed, and violence was offered to her virtue, by a young man named Mundus, who fell in love with her, and had caused her to come to the temple of Isis by means of the priests of that goddess, who declared that Anubis wished to communicate to her something of moment. Saturninus complained to the emperor of the violence which had been offered to his wife; and the temple of Isis was overturned, and Mundus banished, &c.

(2.) PAULINA, wife of the philosopher SENECA. She attempted to kill herself when Nero had ordered her husband to die. The emperor, however, prevented her; and she lived some few years after, in the greatest melancholy.

PAULINGSTOWN, a township of New York, in Dutchess county, on the W. bank of the Connecticut. In 1790, it contained 4288 citizens, and 42 slaves; and in 1796, it had 560 qualified electors.

PAULINIA, in botany, a genus of the trigynia order, belonging to the octandria class of plants; and in the natural method ranking under the 23d order, *Tribilatæ*. Its characters are these: the flower has a permanent empalement, composed of 4 small oval leaves; it has 4 oblong oval petals, twice the size of the empalement: and 8 short stamina with a turbinated germen, having 3 short slender styles, crowned by spreading stigmas; the germen turns to a large three-cornered capsule with 3 cells, each containing one almost oval seed. Linnæus reckons 7, and Miller 9 species, natives of the West Indies.

PAULIN'S KILL, a river of New Jersey, which is navigable for small vessels, 15 miles to Sussex county.

(1.) PAULINUS, bishop of Nola, was born at Bourdeaux, about A. D. 353. He was consul of Rome, and married Therasia, who converted him to Christianity. He was made bishop of Nola, where he continued, till it was taken and sacked by the Goths, in 410. He wrote *Letters* and *Poems*, with elegance, and died in 431.

(2.) PAULINUS, an English bishop, who flourished in the early part of the 7th century. He was the apostle of Yorkshire, and the first archbishop of York, about A. D. 626. He built a church at Almonsbury, and dedicated it to St Alban, where he converted the Brigantes. Camd mentions a cross at Dewsborough, which b been erected to him with this inscription, *Paul hic prædicavit et celebravit*. York was so smal bout this time, that there was not so much a small church in it, in which K. Edwin could baptized. Constantius made it a bishopric. P Honorius made it a metropolitan see. Paul baptized in the river Swale, in one day, 10 men, besides women and children, on the converfion of the Saxons to Christianity, bef many at Halystone. At Walstone, in North berland, he baptized Segbert, king of the Saxons. Bede says, "Paulinus coming with king and queen to the royal manor called *Ad brin* (now YEVERIN), staid there 36 days them, employed in the duties of catechizing, structing, and baptizing the people in the ne bouring river Glen." He adds, that "he pre ed the word in the province of Lindisi; and verted the governor of the city of Lindocoll whose name was Blecca, with all his family. this city he built a stone church of exq workmanship, whose roof being ruined, only walls are now standing." He also founded a legiate church of prebends near Southwel Nottinghamshire, dedicated to the Virgin M when he baptized the Coritani in the Trent.

PAULINZELLE, a town of Upper Saxon Schwartzburg; 8 miles W. of Rudolstadt, 20 N. of Coburg.

PAULMIER, James, DE GRENTESMENIL eminent French author, born in Augé, in He went early into the army, but quitted i literature, settled at Caen, and was the firs moter of its academy. He published va learned works; particularly *Observationes in mos auctores Græcos*. Lug. Bat. 4to, 1668. He at Caen, in 1670, aged 83.

PAULMY, a town of France, in the de ment of Indre and Loire; 12 miles SW Loches.

PAULO, Mark, a celebrated traveller, wa of Nicholas Paulo, a Venetian, who went his brother Matthew, about 1255, to Const nople, in the reign of Badwin II. In the c of their mercantile travels, having been fav bly received at the court of Kublai, grand of the Tartars, they returned thither with missionaries from Rome, and young Mark. young man, having learned the different di of Tartary, was employed in embassies w gave him the opportunity of traversing Ta China, and other eastern countries. At le after a residence of 17 years at the court o grand khan, the three Venetians returned to own country, in 1295, with immense fortun short time after his return, Mark serving his try at sea against the Genoese, his galley, great naval engagement, was sunk, and hi taken prisoner, and carried to Genoa. H mained there many years in confinement; composed the history of his own and his fa voyages under this title, *Delle maraviglie del da lui vidute*, &c.; printed first at Venice, in 1496. In the writings of Mark Paulo, ther some things true, and others highly incredib

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PAULOGRAD, a town of Ruſſia, in Ekaterinoſlaf; 32 miles E. of Ekaterinoſlaf. Lon. 53. 40. E. Ferro. Lat. 47. 10. N.

PAULO POST FUTURUM, a tenſe in the Greek verbs, uſed to expreſs a period *a little after the future*. There is nothing analogous to this in the Latin or any other language.

PAULOV, a town of Ruſſia, 20 miles S. of Narva.

PAULOVA, a town of Ruſſia, in Irkutſk.

PAULOVSK, a town of Ruſſia, in Voronez, on the Don; 68 miles SE. of Voronez. Lon. 58. 0. E. Ferro. Lat. 50. 20. N.

PAULOVSKAIA, a town of Ruſſia, in Ekaterinoſlaf, on the Dnieper; 32 miles E. of Ekaterinoſlaf.

PAUL'S BAY, ST, a bay on the W. coaſt of Newfoundland; 10 miles N. of Bonne Bay.

PAULSBURGH, a townſhip of New Hampſhire, in Grafton county, near the head waters of the Amonooſuck.

PAUL'S ISLAND, ST, an iſland in the Strait between Newfoundland and Cape Breton; 15 miles W. of North Cape. Lon. 60. 2. W. Lat. 47. 30. N.

PAUL'S POINT, a cape on the E. coaſt of Barbadoes; half a mile S. of Cuckold's Point.

(1.) PAUL'S, ST, a townſhip and pariſh of S. Carolina, in Charleſtown diſtrict; containing only 198 citizens, and 3157 ſlaves, in 1795.

(2.) PAUL'S, ST, the moſt ſouthern of the Pearl Iſlands, in the Gulf of Panama.

(1.) PAULUS, the founder of the PAULICIANS. See that article.

(2.) PAULUS, ÆMILIUS. See ÆMILIUS PAULUS.

(3.) PAULUS HOOK, a fortified poſt of New Jerſey, on North River, where it is 2000 yards broad, oppoſite New York, where the Americans were defeated in 1779 by the Britiſh. See AMERICA, § 31.

(4.) PAULUS SAMOSATENUS, the founder of the ſect of PAULIANISTS. (See that article.) He was biſhop, Q. of Palmyra, had a great eſteem for himſelf on account of his eloquence; and he is ſaid to have new-modelled Chriſtianity, and framed it chiefly, chiefly with a view to make a convert of Zenobia; but ſhe ſtuck to her prejudices in favour of Judaiſm.

(5.) PAULUS, SERGIUS. See PAUL, N° 2.

To PAUNCH. *n. ſ.* [*panſe*, French; *pança*, Spaniſh; *pantex*, Latin.] The belly; the region of the guts.—Demades, the orator, was talkative, would eat hard; Antipater would ſay of him, that he was like a ſacrifice, that nothing was left but the tongue and the *paunch*. *Bacon.*—

Pending Matho born abroad for air,
With his fat *paunch* fills his new-faſhion'd chair.
Dryden.

To PAUNCH. *v. a.* [from the noun.] To gore or rip the belly; to exenterate; to take out the paunch; to eviſcerate.—

Better his ſkull, or *paunch* him with a ſtake.
Shak.

Chron attack'd Taithybius with ſuch might,
That pale had *paunch'd* the huge hydropick knight.
Garth.

PAUNGARTENBERG, a town of Germany, in Auſtria; 6 miles SW. of Grein.

(I.) PAVO, in aſtronomy, the *Peacock*, a conſtellation in the ſouthern hemiſphere, unknown to the ancients, and not viſible in our latitude. It conſiſts of 14 ſtars, of which the names and ſituations are as follow:

	Signs.	Longitude. ° ′ ″	Latitude South ° ′ ″	Magnitude.
The eye of the peacock	♑	0 0 3	36 11 18	2
In the breaſt		24 41 51	46 56 21	3
In the right wing		18 41 38	45 52 34	3
In the middle		3 42 28	44 29 8	3
In the root of the tail, first		3 53 24	44 6 13	5
5. second		2 42 11	41 37 9	5
third		3 55 22	39 3 23	6
fourth		5 11 3	37 10 46	6
fifth		0 49 34	38 54 14	5
ſixth	♐	29 39 17	38 3 36	4
10. ſeventh		27 22 53	40 9 28	5
laſt		24 7 44	41 28 2	4
In the right foot	♑	1 22 11	48 6 3	4
In the left foot		9 43 7	50 49 7	4

See ASTRONOMY, § 549.

(II.) PAVO, in ichthyology. See PEACOCK FISH.

(III.) PAVO, the PEACOCK, in ornithology; a genus belonging to the order of gallinæ. The head is covered with feathers which bend backwards; the feathers of the tail are very long, and beautifully variegated with eyes of different colours. Latham enumerates 8 ſpecies:

1. PAVO ALBUS, *the white peacock*, is, as its name imports, entirely white, not excepting even the eyes of the train, which it is nevertheleſs eaſy to trace out. This variety is in Latham's opinion more common in England than elſewhere. He met with two inſtances of the females of this ſpecies having the external marks of the plumage of the male.

2. PAVO BICALCARATUS is larger than the common pheaſant. The bill is black, but from the noſtrils to the tip of the upper mandible red. The irides are yellow. The feathers on the crown of the head are ſufficiently long to form a creſt, of a dull brown colour. The ſpace between the bill and eyes is naked, with a few ſcattered hairs: the ſides of the head are white: the neck is bright brown, ſtriated acroſs with duſky brown; the upper parts of the back, ſcapulars, and wing coverts, are dull brown, dotted with paler brown and yellowiſh; beſides which, each feather is marked near the end with a roundiſh large ſpot of a gilded purple colour, changing into blue and green in different lights: the lower part of the back and rump are dotted with white: all the under parts are brown, ſtriated tranſverſely with black: the quills are duſky; the ſecondaries are marked with the ſame ſpot as the reſt of the wing: the upper tail coverts are longer than the tail, and each marked at the end with a ſpot like the wing

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wing feathers, each of which is ſurrounded firſt with a circle of black, and ultimately with an orange one: the legs and claws are brown, and on the back part of each leg are two ſpurs, one above the other. The female is a third ſmaller than the male. The head, neck, and under parts are brown; the head ſmooth: the upper parts are alſo brown, and the feathers marked with a dull blue ſpot, ſurrounded with dirty orange: the feathers which cover the tail are ſimilar; but marked at the end with an obſcure dull oval ſpot of blue: the legs have no ſpurs. This ſpecies is of Chineſe origin, and ſome of them have been brought from China to England alive, and have been for ſome time in the poſſeſſion of Dr James Monro. The male is now in the Leverian Muſeum, in the fineſt preſervation. Sonnerat obſerves, that the bird from whence his deſcription was taken had two ſpurs on one leg, and three on the other. This muſt ſurely be a *luſus naturæ*; eſpecially as he ſays, it is the ſame as that in *Edw.* pl. 67.

3. PAVO CRISTATUS, the common peacock of Engliſh authors, has a compreſſed creſt and ſolitary ſpurs.—It is about the ſize of a turkey; the length from the tip of the bill to the end of the tail being 3 feet 8 inches. The bill is nearly two inches long, and is of a brown colour. The irides are yellow. On the crown there is a ſort of creſt, compoſed of 24 feathers, which are not webbed except at the ends, which are gilded green. The ſhafts are of a whitiſh colour; and the head, neck, and breaſt, are of a green gold colour. Over the eye there is a ſtreak of white, and beneath there is the ſame. The back and rump are of a green gold colour, gloſſed over with copper: the feathers are diſtinct, and lie over each other like ſhells. Above the tail ſprings an inimitable ſet of long beautiful feathers, adorned with a variegated eye at the end of each; theſe reach conſiderably beyond the tail; and the longeſt of them in many birds are four feet and a half long. This beautiful train, or *tail* as it *is* improperly called, may be expanded quite to a perpendicular upwards at the will of the bird. The true tail is hid beneath this group of feathers, and conſiſts of 18 grey brown feathers, one foot and a half long, marked on the ſides with rufous grey: the ſcapulars and leſſer wing coverts are reddiſh cream-colour, variegated with black: the middle coverts deep blue, gloſſed with green gold: the greateſt and baſtard wing rufous; the quills are alſo rufous; ſome of them variegated with rufous, blackiſh, and green: the belly and vent are greeniſh black: the thighs yellowiſh: the legs ſtout; thoſe of the *male* furniſhed with a ſtrong ſpur three quarters of an inch in length; the colour of them grey brown. The female is rather leſs than the male. The train is very ſhort, being much ſhorter than the tail, and ſcarcely longer than its coverts; neither are the feathers furniſhed with eyes. The creſt on the head is ſimilar to that on the head of the male: the ſides of the head have a greater portion of white: the throat and neck are green: the reſt of the body and wings are cinereous brown: the breaſt is fringed with white: the bill is the ſame: the irides are lead-coloured, the legs are as in the male; but the ſpur is generally wanting, though in ſome birds a rudiment of one ſeen. In ſome male birds, all the wing cove and ſcapulars are of a fine deep blue green, gloſſy; but the outer edge of the wing and qu are of the common colour. Theſe birds, now common in Europe, are of eaſtern origin. T are found wild in the iſlands of Ceylon and J in the Eaſt Indies; and at St Helena, Barbu and other Weſt India iſlands. They are not tural to China; but the are found in many pl of Aſia and Africa. They are, however, nowh ſo large or ſo fine as in India, in the neighb hood of the Ganges, whence they have ſpread to all parts, increaſing in a wild ſtate in the wa er climes; but requiring care in the colder regi In ours, this ſpecies does not come to its plumage till the 3d year. The female lays greyiſh white eggs; in hot climates 20, the of thoſe of a turkey. Theſe, if let alone, ſhe in ſome ſecret place, at a diſtance from the u reſort, to prevent their being broken by the m which he is apt to do if he find them. The t of ſitting is from 27 to 30 days. The young be fed with curd, chopped leeks, barley-m &c. moiſtened; and are fond of graſhoppers, ſome other inſects. In 5 or 6 months they feed as the old ones, on wheat and barley, what elſe they can pick up in the circuit of t confinement. They ſeem to prefer the moſt vated places to rooſt on during night; ſuch high trees, tops of houſes, and the like. T cry is loud and inharmonious; a perfect con to their external beauty. They are caught i dia, by carrying lights to the trees where rooſt, and having painted repreſentations o bird preſented to them at the ſame time; they put out the neck to look at the figure, ſportſman ſlips a nooſe over the head, and ſe his game. In moſt ages they have been eſte a ſalutary food. Hortenſius gave the examp Rome, where it was carried to the higheſt lu and fold dear: and a young pea-cock is thou dainty even in the preſent times. The li theſe birds is reckoned by ſome at about 25 y by others 100. So beautiful a ſpecies of bir the peacock could not long remain unknow early as the days of Solomon, we find, amon articles imported in his Tarſhiſh navies, apes peacocks. Ælian relate, that they were bro into Greece from ſome barbarous country that they were held in ſuch high eſteem, t male and female were valued at Athens at drachmæ, or 32l. 5s. 10d. At Samos were preſerved about the temple of Juno, ſacred to that goddeſs; and Gellius, in his *Atticæ*, c. 16. commends the excellency o Samian peacocks. When Alexander was in he found vaſt numbers of wild ones on the of the Hyarotis; and was ſo ſtruck with beauty, as to appoint a ſevere puniſhment o perſon that killed them. Peacocks creſts, i cient times, were among the ornaments c kings of England. Ernald de Aclent was fir king John in 140 palfries, with ſack-buts, lo gilt ſpurs, and peacocks creſts, ſuch as wou for his credit. See *Plate* CCLXX.

4. PAVO MUTICUS is about the ſize o creſted peacock; but the bill is larger and colo

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coloured: the irides are yellow, and round the eyes is red; on the top of the head is an upright crest 4 inches long, and shaped somewhat like an ear of corn. The colour is green mixed with blue. The top of the neck and head are greenish, marked with spots of blue, which have a streak of white down the middle of each: the back is greenish blue: the breast is blue and green gold mixed: the belly, sides, and thighs are ash-colour, marked with black spots, streaked with white on the belly; the wing coverts and secondaries are not unlike the back: the greater quills are green, transversely barred with black lines, but growing yellowish towards the ends, where they are black: the upper tail coverts are fewer than those of the common peacock, but much longer than the tail; they are chesnut brown, with white shafts, and have at the end of each a large spot gilded in the middle, then blue, and surrounded with green: the legs are ash-coloured, and not furnished with spurs, or they have been overlooked by those who have seen them. The female is smaller than the male; and has the belly quite black, and the upper tail coverts much shorter: the tail is green, edged with blue, and white shafts. It inhabits Japan, and is only known to Europe by a painting, sent by the Emperor of Japan to the pope.

5. PAVO TIBETANUS is about the size of a turkey, being about two feet and nearly two inches long. The bill is above an inch and a half long, black, cancreous: the irides are yellow: the head, neck and under parts are ash-coloured, marked with blackish lines: the wing coverts, back, and rump are grey, with small white dots; besides which, on the wing coverts and back are large round spots of a fine blue, changing in different lights to violet and green gold: the quills and upper tail coverts are also grey, marked with blackish lines; the quills have two round blue spots on each, like those of the coverts; on the outer webs, of all on each tail feather, there are four of the same, two on each side the web; the middle coverts are the longest, the others shorten by degrees: the legs are grey, furnished with two spurs each, like the species N° 2.: the claws are black. This species inhabits the kingdom of Thibet. The Chinese give it the name of *Chin-tchien-Khi*.

PAVO VARIATUS, *the variegated peacock*, is said to breed between the common and white peacock; and of course varies very considerably in colour.

PAYOASAN, or PAYOASSAN, a town of Africa, in the island of St Thomas, belonging to Portugal, the residence of the governor and the bishop; with a fort and a good harbour. It lies under the equator. Lon. 8. 30. W.

PAYONA, a town of the Italian republic, in the dept. of Mella, district of Brescia, and late territory of Bresciano.

PAVOR, METUS, or TIMOR, FEAR, a Roman deity, whose worship was introduced by Tullus Hostilius, who, in a panic, vowed a shrine to him, and one to PALLOR, *Paleness*; and there they are found on the coins of that family. The Spartans of Sparta erected a temple to Fear, and made it a tribunal, to strike an awe into those who approached it. Fear was likewise worshipped at Corinth. The poets did not forget this imaginary deity. Virgil places him in the entrance of hell, in company with diseases, old age, &c. *Æn.* vi. 273. Ovid places him in the retinue of Tisiphone one of the furies, *Met.* iv. 485.

* PAUPER. *n. s.* [Latin.] A poor person; one who receives alms.

PAURÆDASTYLÆ, in the old mineralogy, a genus of perfect crystals with double pyramids, and no intermediate column, composed of 12 planes, or two hexangular pyramids, joined base to base.

PAUSA, a town of Upper Saxony, in Voigtland; 13 miles NNW. of Plauen, and 72 WSW. of Dresden.

PAUSANIA, in Grecian antiquity, a festival in which were solemn games, wherein nobody contended but free-born Spartans; in honour of Pausanias the Spartan general. See PAUSANIAS, N° 1.

(1.) PAUSANIAS, a Spartan king and general, who signalised himself at the battle of Platæa against the Persians. The Greeks, sensible of his services, rewarded his merit with a tenth of the spoils taken from the Persians. He was afterwards appointed to command the Spartan armies, and he extended his conquests in Asia; but the haughtiness of his behaviour created him many enemies; and the Athenians soon obtained a superiority in the affairs of Greece.—Pausanias, dissatisfied with his countrymen, offered to betray Greece to the Persians, if he received in marriage, as the reward of his perfidy, the daughter of their king. His intrigues were discovered by a young man who was intrusted with his letters to Persia, and who refused to go, on recollecting that such as had been employed in that office before had never returned. The letters were given to the Ephori of Sparta, and the perfidy of Pausanias was thus discovered. He fled for safety to a temple of Minerva; and as the sanctity of the place screened him from the violence of his pursuers, the sacred building was surrounded with heaps of stones, the first of which was carried there by the indignant mother of the unhappy man. He was starved to death in the temple, and died about A. A. C. 474. There was a festival instituted to his honour, and an oration spoken in his praise, in which his actions were celebrated, particularly the battle of Platæa, and the death of Mardonius. See PAUSANIA.

(2.) PAUSANIAS, a learned Greek historian and orator, in the 2d century, under Antoninus the philosopher. He was the disciple of Herodes Atticus; he lived for a long time in Greece; and afterwards went to Rome, where he died at a great age. He wrote an excellent description of Greece, in ten books; in which we find not only the situation of places, but the antiquities of Greece, and every thing most curious and worthy of knowledge. Abbe Gedoin has given a French translation of it, in 2 vols 4to.

(3.) PAUSANIAS, the murderer of Philip II. of Macedon. See MACEDON, § 9.

(1.) * PAUSE. *n. s.* [*pause*, Fr. *pausa*, Latin; παυω.] 1. A stop; a place or time of intermission. —Neither could we ever come to any *pause*, whereon to rest our assurance this way. *Hooker.*—

This gentleman
Steps in to Cassio, and intreats his *pause*. *Shak.*
Some *pause* and respite only I require. *Denh.*

—The

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—The punishment must always be rigorously exacted, and the blows by *pauses* laid on till they reach the mind. *Locke.*—

Whilst those exalted to primeval light,
Only perceive some little *pause* of joys. *Prior.*

What *pause* from woe, what hopes of comfort bring
The names of wife or great? *Prior.*

—Our discourse is not kept up in conversation, but falls into more *pauses* and intervals than in our neighbouring countries. *Spectator.* 2. Suspense; doubt.—

I stand in *pause* where I shall first begin. *Shak.* 3. Break; paragraph; apparent separation of the parts of a discourse.—He writes with warmth, which usually neglects method, and those partitions and *pauses* which men, educated in the schools, observe. *Locke.* 4. Place of suspending the voice marked in writing thus —. 5. A stop or intermission in musick.

(2.) *A* PAUSE is a cessation in speaking, singing, playing, or the like. One use of pointing in grammar is to make proper pauses. There is a pause in the middle of each verse; in an hemistich, called a *rest* or *repose*. See POETRY, and READING.

* *To* PAUSE. *v. n.* 1. To wait; to stop; not to proceed; to forbear for a time, used both of speech and action.—

Tarry; *pause* a day or two. *Shak.*
While I *pause*, serve in your harmony. *Shak.*
Pausing a while, thus to herself she mus'd.
Milton.
Here th' archangel *paus'd*,
Between a world destroy'd and world restor'd.
Milton.

2. To deliberate.—

Other offenders we will *pause* upon. *Shak.*
—Solyman *pausing* a little upon the matter, suffered himself to be intreated. *Knolles.* 3. To be intermitted.—

The pealing organ, and the *pausing* choir,
And the last words, that dust to dust convey'd!
Tickel.

* PAUSER. *n. s.* [from *pause*.] He who pauses; he who deliberates.—

The expedition of my violent love
Outruns the *pauser*, reason. *Macbeth.*

PAUSIAS, a famous ancient painter, the inventor of ENCAUSTIC PAINTING, was a native of Sicyon. He was a disciple of Pamphilus, and flourished about A. A. C. 352. He drew a beautiful picture of his mistress Glycere, for which Lucullus gave two talents. The Sicyonians being obliged to sell his pictures to clear an enormous debt, they were all purchased by M. Scaurus, the Roman.

PAUSILIPPO, a celebrated mountain of Naples, 5 miles from Puzzoli, famous for its grotto, or rather its subterranean passage through it, near a mile long, about 20 feet broad, and from 30 to 40 in height. The gentry generally drive through it with torches; but the country people find their way with little difficulty, by the light which enter at each end; and by two holes pierced thro' the mountain from the top, near the middle of the passage. On this mountain is the tomb of Virgil, overgrown with ivy, and overshaded an ancient laurel tree.

PAUSILYPUS, the ancient name of PAUSILIPPO.

PAUTUCKEE. See PATUCKET.

PAUTZKE, a town of W. Prussia, in Pomerelia; 25 miles NW. of Dantzick. It was taken by the Danes, in 1464, after a long siege; by the Swedes in 1626; and by the Poles, in 1627. Lon. 18. 41. E. Lat. 45. 44. N.

PAUXIS, a fort of Brazil, in Para, on the bank of the Amazon. Lon. 40. 56. W. Lat. 30. S.

PAUZANNE, ST, a town of France, in the dep. of Lower Loire; 12 miles SW. of Nantz.

PAUZEN, a town of Bohemia, in Bolesla 10 miles E. of Jung-Bunzel.

PAUZK. See PAUTZKE.

* PAW. *n. s.* [*pawen*, Welsh.] 1. The foot of a beast of prey.—

One chose his ground,
Whence rushing he might surest seize both,
Grip'd in each *paw*. *Milton's Par.*

—The bear goes backward into his den that the hunter rather mistakes than finds the way out. *Paw. Holyday.*—The bee and serpent know their stings, and the bear the use of his *paws*. *Against Atheism.*—If lions had been brought in painting, where you have one lion under the paw of a man, you should have had twenty men under the *paw* of a lion. *L'Estrange.*—

Both their *paws* are fasten'd on the prey.

2. Hand. In contempt.—

Be civil to the wretch imploring
And lay your *paws* upon him without ro

(1.) * *To* PAW. *v. n.* [from the noun.] To strike the fore foot along the ground.—

The fiery courser,
Pricks up his ears, and trembling with de
Shifts place, and *paws*, and hopes the pr
fight.
Th' impatient courser pants in every v
And *pawing*, seems to beat the distant p

—Once, a fiery horse, *pawing* with his hoof, made a hole in my handkerchief. *Swift.*

(2.) * *To* PAW. *v. a.* 1. To strike with a stroke of the fore foot.—

His hot courser *paw'd* th' Hungarian

2. To handle roughly. 3. To fawn; to *Ainsw.*

(3.) *To* PAW, *v. a.* in the manege. A h said to paw the ground, when, his leg either tired or painful, he does not rest pon the ground, and fears to hurt himself walks.

* PAWED. *adj.* [from *paw*.] 1. Having 2. Broad footed.

PAWING, a town of East Friesland, n Ems; 3 miles S. of Emden.

PAWLET, a township of Vermont, i land county, containing 1458 citizens, in 1

(1.) * PAWN. *n. s.* [*pand*, Dutch; *pan*, F

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1. Something given to pledge as a security for money borrowed, or promise made.—

Her oath for love, her honour's *pawn*. *Shak.*

—As for mortgaging and pawning, men will not take *pawns* without use; or they will look for the forfeiture. *Bacon.*—His very word will countervail the bond or *pawn* of another. *Howel.*—Here's the very heart, and soul, and life-blood of Gonet; *pawns* in abundance, till the next bribe helps their husbands to redeem them. *Dryden.* 2. The state of being pledged.—

Sweet wife, my honour is at *pawn*. *Shak.*

Redeem from broking *pawn* the blemish'd crown. *Shak.*

3. A common man at chess.—

Here I a *pawn* admire,
That still advancing higher,
At top of all became
Another thing and name. *Cowley.*

(2.) PAWN is derived *a pugno, quia res quæ pignori dantur, pugno vel manu traduntur.* The party that pawns goods hath a general property in them; they cannot be forfeited by the party that hath them in pawn for any offence of his, nor be taken in execution for his debt; neither may they otherwise be put in execution till the debt for which they are pawned is satisfied. If the pawn is laid up, and the PAWNEE robbed, he is not answerable; though if the pawnee use the thing, as a jewel, watch, &c. that will not be the worse for wearing, which he may do, it is at his peril; and if he is robbed, he is answerable to the owner, as the using occasioned the loss, &c. If the pawn is of such a nature that the keeping is a charge to the pawnee, as a cow or a horse, &c. he may milk the one, and ride the other, and this shall go in recompence for his keeping. Things which will grow the worse by using, as apparel, &c. he may not use.

* *To* PAWN. *v. a.* [from the noun.] To pledge; to give in pledge. It is now seldom used but of pledges given for money.—

I hold it cowardice
To rest mistrustful, where a noble heart
Hath *pawn'd* an open hand in sign of love. *Shak.*

Let's lead him on with a fine baited delay, 'till he hath *pawn'd* his horses. *Shak. Merry Wives.*—I dare *pawn* down my life for him, that he hath heart to resist my affection to your honour. *Shak.*

Will you thus break your faith?—
I *pawn'd* you none. *Shak.*

I'll *pawn* the little blood which I have left,
To save the innocent. *Shak.*

The dear remembrance of that fatal glance,
For which he lately *pawn'd* his heart. *Waller.*

She who before had mortgag'd her estate,
And *pawn'd* the last remaining piece of plate. *Dryden.*

—One part of the nation is *pawned* to the other. *Swift.*

* PAWNBROKER. *n. s.* [*pawn* and *broker*.] One who lends money upon pledge.—Those money-brokers seem to have been little better than our pawnbrokers. *Arbuthnot.*

PAWNEE, *n. s.* One who lends on pawns.

PAWTEWATAMIES, a nation of N. American Indians, who reside in the North-Western Territory, on the banks of the river St Joseph. They have 200 warriors. They ceded to the United States a tract of 6 miles square.

PAX, the goddess of PEACE, among the ancients. The Athenians erected a statue of her, representing her as holding PLUTUS, the god of wealth, in her lap. They also first erected an altar to her, after Cimon's victory over the Persians; *(Plut.)* or after that of Timotheus over the Spartans. *(Nepos.)* The Romans represented her with an olive branch in the one hand, and the horn of plenty in the other. See PEACE, § 5.

PAXARO, } or PAXARO NIGRO, an island,
PAXAROS, } or cluster of islands, near the coast of California, in the N. Pacific Ocean. Lon 120. 45. W. Lat. 29. 30. to 30. 18. S.

PAXIMADES, an island near the S. coast of Candia. Lon. 42. 29. E. Ferro. Lat. 34. 54. N.

(1.) PAXTON, a village of Scotland, in Berwickshire, on the Tweed, in Hutton parish; containing 271 inhabitants in 1791.

(2.) PAXTON, a township of Massachusetts, in Worcester county; 8 miles W. of Worcester, and 59 SW. of Boston. It had 558 citizens in 1795.

(3.) PAXTON, LOWER, } two townships of Penn-
(4.) PAXTON, UPPER, } sylvania, in Dauphin County.

PAXU, an island in the Mediterranean, 12 miles in circumference, with a good harbour; yet uninhabited on account of the pirates. It is 8 miles SE. of Corfu. Lon. 38. 7. E. Ferro. Lat. 39. 21. N.

* PAY. *n. s.* [from the verb.] Wages; hire; money given in return for service.—

Come on, brave soldiers, doubt not of the day;
And, that once gotten, doubt not of large *pay*. *Shak.*

—There is neither *pay* nor plunder to be got. *L'Estrange.*—Money, instead of coming over for the *pay* of the army, has been transmitted thither for the *pay* of those forces called from thence. *Temple.*—

Here only merit constant *pay* receives. *Pope.*

* *To* PAY. *v. a.* [*paier*, Fr. *apagar*, Spanish; *pacare*, Lat.] 1. To discharge a debt. It is applied to debts of duty, as well as debts of commerce.—

You have done enough, and have perform'd
A saint-like sorrow; and indeed *paid* down
More penitence, than done trespass. *Shak.*

Your son has *paid* a soldier's debt. *Shak.*

—She does what she will, say what she will, take all, *pay* all. *Shak.*—

The king and prince
Then *paid* their off'rings. *Dryden.*

—An hundred talents of silver did the children of Ammon *pay*. 2 *Chron.* xxvii. 5.—This day have I *paid* my vows. *Proverbs*, vii. 14. 2. It is opposed to *borrow*.—The wicked borroweth, and *payeth* not again. *Psalms.* 3. To dismiss one to whom any thing is due with his money: as, he had *paid* his labourers. 4. To atone; to make amends by suffering: with *for* before the cause of payment.—

If this prove true, they'll *pay for't*. *Shak.*

Bold Prometheus, whose untam'd desire

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Rival'd the sun with his own heav'nly fire,
Now doom'd the Scythian vulture's endless prey,
Severely *pays* for animating clay. *Roscommon.*

—Men of parts, who were to act according to the result of their debates, and often *pay for* their mistakes with their heads, found those scholastick forms of little use to discover truth. *Locke.* 5. To beat.—I follow'd me close, and, with a thought, seven of the eleven I *paid*. *Shak.*—

Forty things more, my friends, which you know true,
For which, or *pay* me quickly, or I'll *pay* you.
Ben Jonson.

6. To reward; to recompense.—

She I love, or laughs at all my pain,
Or knows her worth too well, and *pays* me with disdain. *Dryden.*

7. To give the equivalent for any thing bought. —Riches are got by consuming less of foreign commodities, than what by commodities or labour is *paid* for. *Locke.*—It is very possible for a man that lives by cheating, to be very punctual in *paying* for what he buys. *Law.*

* PAYABLE. *adj.* [*paiable*, Fr. from *pay*.] 1. Due; to be paid.—The marriage-money, the princess brought, was *payable* ten days after the solemnization. *Bacon.*—The farmer rates or compounds the sums of money *payable* to her majesty, for the alienation of lands, made without or by licence. *Bacon.* 2. Such as there is power to pay.—Thanks are a tribute *payable* by the poorest. *South.*

* PAYDAY. *n. s.* [*pay* and *day*.] Day on which debts are to be discharged, or wages paid.—Labourers pay away all their wages, and live upon trust till next *payday*. *Locke.*

PAYENGAUT, or COIMBETORE, a district of Indostan, in Mysore, on the Malabar coast. See COIMBETTORE, N° 1, and MYSORE, N° 1 and 2.

* PAYER. *n. s.* [*paieur*, Fr. from *pay*.] One that pays.

PAYERNE, a town of the Helvetic republic, in Berne; 22 miles SW. of Berne.

PAYJAN, a town of Peru, in Truxillo.

(1.) PAYMAGO, a fortress of Portugal, in Estremadura, on the sea coast 4½ miles SSE. of Peniche.

(2.) PAYMAGO, a town of Spain, in Seville, on the frontiers of Portugal, 35 miles N. of Ayamonte.

* PAYMASTER. *n. s.* [*pay* and *master*.] One who is to pay; one from whom wages or reward is received.—Howsoever they may bear sail for a time, yet are they so sure *paymasters* in the end, that few have held out their lives safely. *Hayward.*—If we desire that God should approve us, it is a sign we do his work, and expect him our *paymaster*. *Taylor.*

* PAYMENT. *n. s.* [from *pay*.] 1. The act of paying.—No man envieth the *payment* of a debt. *Bacon.* 2. The thing given in discharge of debt or promise.—

Thy husband
Craves no other tribute at thy hands
But love, fair looks, and true obedience;
Too little *payment* for so great a debt. *Shak.*

3. A reward.—

Give her an hundred marks.
—An hundred marks! by this light I'll
more.

An ordinary groom is for such *payment*. *Sh*
—He that would understand the falsehood
deceit of sin thoroughly, must compare its
mises and its *payments* together.—4. Chastisem
found beating. *Ainsworth.*

(1.) PAYNE, Nevil, an English dramatic
ter, who flourished under Charles II. He p
lished 3 plays, viz. 1. The Fatal Jealousy: a
gedy; 4to, 1673. 2. The Morning Ramble;
the Town Humours, a comedy; 4to, 1673.
The siege of Constantinople; a tragedy,
1675.

(2.) PAYNE, Roger, a late eminent English bo
binder, the first of his profession, who introdu
a style of binding that united elegance with d
bility. The ornaments used by him were ap
priated to the subject. His master-piece was
Æschylus, the decorations of which were sug
beyond description. The binding of this w
cost Earl Spencer *fifteen guineas*. He died in 1
Watkins.

PAYO, ST, a town of Portugal, in Tra
Montes, 18 miles W. of Miranda de Duero.

PAYRABA, a town of Brazil, in the North
division.

(1.) PAYS, Renatus LE, a French poet, bor
Nantz, in 1636. He was comptroller gener
imposts, in provence. He published a miscell
in prose and verse, entitled, *Amities*, *Amours*
Amourettes.

(2.) PAYS, or PAIS. See PAIS.

* *To* PAYSE. *v. n.* [Used by *Spenser* for *p*
To balance.—

Ne was it island then, ne was it *pays'd*
Amid the ocean waves. *Spe*

* PAYSER. *n. s.* [for *poiser*.] One that wei
—To manage this coinage, porters bear the
payzere weigh it. *Carew.*

PAYTA. See PAITA.

(1.) PAZ, or LA PAZ, a province and a
bishopric of Peru, in Buenos Ayres or Chat
full of mountains, which are supposed to abo
with gold; for a crag of one of them, calle
limani, being broken off some years ago, by a
of lightning, such a quantity of gold was fo
among the fragments, that it was sold for
time after at 8 dollars per ounce. But the
of these mountains being constantly covered
snow and ice, no attempt has been made to o
a mine. In 1730, an Indian, while bathing
river, near the city, found a piece of gol
large, that the Marquis of Castel Fuerte gave
12,000 dollars for it, and sent it to the kin
Spain.

(2.) PAZ, the capital of the above province
seated among the mountains, on the side of a
ley, 36 miles from the Cordilleras, through wh
a large river flows, which often brings down g
from the mountains. This city contains a ca
dral, 4 churches, a college, an hospital, few
convents, and about 20,000 inhabitants. It
180 miles N. of Plata, and 350 SE. of Cu
Lon. 64. 30. W. Lat. 15. 59. S.

PAZCUAR

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PAZCUARO, or PAZQUARO, a lake of Mexico, on the E. bank of which the city is seated. See MEXICO, N° I. 2, 15.

PAZZANO, a town of Naples, in Calabria Ulter, 19 miles E. of Girace.

PAZZY, a town of European Turkey in Romania, near Gallipoli, with a bishop's see. Lon. 26. 59 E. Lat. 40. 33. N.

(1.) PE, or PEDE SCALA, a town of Maritime Austria, in the Vicentino, one of the Sette Comuni.

(2.) PE, ST, a town of France, in the dep. of the Upper Pyrenees, 7 miles N. of Argellez, and 6 W. of Lourde.

PEA. *n. s.* [*pisum*, Latin; *piſa*, Saxon; *pois*, French.] A *pea* hath a papilionaceous flower, and out of his empalement riſes the pointal, which becomes a long pod full of roundiſh ſeeds; the ſtalks are ſiſtulous and weak, and ſeem to perforate the leaves by which they are embraced; the other leaves grow by pairs along the mid rib, ending in a tendril. The ſpecies are 16: 1. The greater garden pea, with white flowers and fruit. 2. Hotſpur pea. 3. Dwarf pea. 4. French dwarf pea. 5. Pea with an eſculent huſk. 6. Sickle pea. 7. Common white pea. 8. Green rouncival pea. 9. Grey pea. 10. Maple rouncival pea. 11. Roſe pea. 12. Spaniſh moretto pea. 13. Marrowfat or Dutch admiral pea. 14. Union pea, 15. Sea pea. 16. Pig pea. *Miller.*

(1.) PEA, in botany. See PISUM.

(2.) PEA CHICK. See CICER.

(3.) PEA, EVERLASTING. See LATHYRUS, N° II. § 1.

(4.) PEA, HEART. See CARDIOSPERMUM.

(5.) PEA, HEATH. See OROBUS.

(6.) PEA, PIGEON. See CYTISUS, N° I, § 2,

(7.) PEA, SWEET-SCENTED. See LATHYRUS, N° II, § 2.

(8.) PEA, TANGIER. See LATHYRUS, N° II, § 3.

(9.) PEA, WINGED. See LOTUS, N° I, § 6.

PEACE. *n. ſ.* [*paix*, French; *pax*, Lat.]

1. Reſpite from war.—Preſerve us in *peace*; ſo preſerve us in *peace*, that war may be always odious. *Eſther.*—

All the northern world lies huſh'd in *peace*. *Addiſon.*

2. Quiet from ſuits or diſturbances.—The king commanded that Sherborn ſhould hold his land in *peace*. *Davies.* 3. Reſt from any commotion. 4. Quietneſs from riots or tumults.—

Keep *peace* upon your lives. *Shak.*

All aſſembled here in arms againſt God's *peace* and the king's. *Shak.*—Shallow, you have your *peace*, a greater fighter, though now a man of *peace*. *Shak.* 5. Reconciliation of differences.—Let him make *peace* with me. *Iſaiah*, xxvii. 5. 6. Amity not hoſtile.—If I have rewarded evil unto him that was at *peace* with me, let the enemy perſecute my ſoul. *Pſalm* vii. 4.—There be three *peaces* or unities. *Bacon.* 7. Reſt; quiet; ſilence; freedom from terrour; heavenly reſt.—

Well, *peace* be with him, that hath made us merry!

Peace be with us, leſt we be heavier! *Shak.*

Fear not, *peace* be unto thee, fear not. *Judg.* vi. 23.—The God of hope fill you with all joy and *peace* in believing. *Rom.* xv. 13.—Religion directs us rather to ſecure inward *peace* than outward eaſe. *Tillotſon.* 8. Silence; ſuppreſſion of the thoughts.—

'Twill out;—I *peace!*

No, I will ſpeak as liberal as the air. *Shak.*

—He aſked in ſcorn one of the examinates, who was a freed ſervant of Scribonianus; I pray, Sir, if Scribonianus had been emperor, what would you have done? he anſwered, I would have ſtood behind his chair and held my *peace*. *Bacon.*—

She ſaid; and held her *peace*. *Dryden.*

9. [In law.] That general ſecurity and quiet which the king warrants to his ſubjects, and of which he therefore avenges the violation; every forcible injury is a breach of the king's *peace*.

(2.) * PEACE. *interjection.* A word commanding ſilence.—*Peace!* fear, thou comeſt too late, when already the arm is taken. *Sidney.*—

Hark! *peace!*

It was the owl that ſhriek'd. *Shak.*

Peace! good reader do not weep;

Peace! the lovers are aſleep. *Craſhaw.*

But *peace*, I muſt not quarrel with the will

Of higheſt diſpenſation. *Milton.*

Silence, ye troubled waves, and, thou deep, *peace!*

Said then th' omnific word. *Milton.*

I prythee *peace!*

Perhaps ſhe thinks they are too near of blood. *Dryden.*

(3.) PEACE, in geography, an iſland near the coaſt of Nova Scotia; a little to the S. of Mirachi Point.

(4.) PEACE, a river of N. America, which runs into Slave River, 20 miles N. of Lake Athapeſcow.

(5.) PEACE, TEMPLE OF, a celebrated temple at Rome, which was conſumed by fire A. D. 191; produced, as ſome writers ſuppoſe, by a ſlight earthquake, for no thunder was heard at the time. Dio Caſſius, however, ſuppoſes that it began in the adjoining houſes. Be that as it will, the temple, with all the ſurrounding buildings, were reduced to aſhes. That magnificent ſtructure had been raiſed by Veſpaſian after the deſtruction of Jeruſalem, and enriched with the ſpoils and ornaments of the temple of the Jews. The ancients ſpeak of it as one of the moſt ſtately buildings in Rome. There men of learning uſed to hold their aſſemblies, and lodge their writings, as many others depoſited their jewels, and whatever elſe they eſteemed of great value. It was likewiſe made uſe of as a kind of magazine for the ſpices brought by the Roman merchants out of Egypt and Arabia; ſo that many rich perſons were reduced to beggary, all their valuable effects and treaſures being conſumed in one night, with the temple.

* PEACEABLE. *adj.* [from *peace*.] 1. Free from war; free from tumult.—The reformation of England was introduced in a *peaceable* manner by the ſupreme power in parliament. *Swift.* 2. Quiet; undiſturbed.—The laws were firſt intended for the reformation of abuſes and *peaceable* continuance of the ſubject. *Spenſer.*—

Lie, Philo, untouch'd on my *peaceable* ſhelf. *Prior.*

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§. Not violent; not bloody.—The Chaldeans flattered both Cæsar and Pompey with long lives and a happy and *peaceable* death; both which fell out extremely contrary. *Hale.* 4. Not quarrelsome; not turbulent.—The most *peaceable* way for you, if you do take a thief, is to let him shew himself. *Shak.*—These men are *peaceable. Genesis* xxxiv. 21.

* PEACEABLENESS. *n. s.* [from *peaceable.*] Quietness; disposition to peace.—Plant in us all those precious fruits of piety, justice, and charity, and *peaceableness. Hammond.*

* PEACEABLY. *adv.* [from *peaceable.*] 1. Without war; without tumult.—

It should to her remain,
Who *peaceably* the same long time did weld,
Spenser.

2. Without tumults or commotion.—The balance of power was provided for, else Pisistratus could never have governed so *peaceably. Swift.* 3. Without disturbance.—

Disturb him not, let him pass *peaceably. Shak.*

* PEACEFUL. *adj.* [*peace* and *full.*] 1. Quiet; not in war; a poetical word.—

Peaceful Italy involv'd in arms. *Dryden.*

2. Pacifick; mild.—

As one disarm'd, his anger all he lost;
And thus with *peaceful* words uprais'd her soon.
Milton.

The *peaceful* power that governs love. *Dryd.*

3. Undisturbed; still; secure.—

Succeeding monarchs heard the subjects cries,
Nor saw displeas'd the *peaceful* cottage rise. *Pope.*

* PEACEFULLY. *adv.* [from *peaceful.*] 1. Without war. 2. Quietly; without disturbance.

Our loved earth, where *peacefully* we slept.
Dryden.

3. Mildly; gently.

* PEACEFULNESS. *n. s.* [from *peaceful.*] Quiet; freedom from war or disturbance.

* PEACEMAKER. *n. s.* [*peace* and *maker.*] One who reconciles differences.—

Blessed are the *peacemakers. Shak.*

Think us,
Those we profess, *peacemakers*, friends and servants. *Shak.*

* PEACE-OFFERING. *n. s.* [*peace* and *offer.*] Among the Jews, a sacrifice or gift offered to God for atonement and reconciliation for a crime or offence.—A sacrifice of *peace-offering* offer without blemish. *Lev.* iii. 1.

* PEACEPARTED. *adj.* [*peace* and *parted.*] Dismissed from the world in peace.—

We should prophane the service of the dead,
To sing a requiem, and such rest to her
As to *peaceparted* souls. *Shak. Hamlet.*

(1.) * PEACH. *n. s.* [*pesche*, Fr. *malum persicum*, Lat.] A tree and fruit.—In his left hand a handful of millet, withal carrying a cornucopiæ of ripe *peaches*, pears and pomegranates. *Peacham.*—

The sunny wall,
Presents the downy *peach. Thomson's Autumn.*

(2.) PEACH. See AMYGDALUS, § 3, 4.

(3.) PEACH WOLF'S, a species of SOLANUM.

* *To* PEACH. *v. n.* [Corrupted from *impeach.*] To accuse of some crime.—If you talk of *peaching*, I'll *peach* first, and see whose oath will be believed, *Dryd.*

* PEACH-COLOURED. *adj.* [*peach* and *colour.*] Of a colour like a peach.—One Mr Caper comes jail at the suit of Mr Threepile the mercer, some four suits of *peach-coloured* sattin, wh now peaches him a beggar. *Shak. Meas. for M.*

* PEACHICK. *n. s.* [*pea* and *chick.*] The chic of a peacock.—Does the snivelling *peachick* th to make a cuckold of me? *Southern.*

(1.) * PEACOCK. *n. s.* [*pawa*, Saxon; *pa* Lat. Of this word the etymology is not knot perhaps it is *peak* cock, from the tuft of feat on its head; the peak of women being an anc ornament; if it be not rather a corruption of *h coq*, Fr. from the more striking lustre of its sp led train.] A fowl eminent for the beauty of feathers, and particularly of his tail.—

Let frantick Talbot triumph for a while
And, like a *peacock*, sweep along his tail. S
—The birds that are hardest to be drawn, are tame birds; as cock, turky-cock and *pea Peacham.*—

The *peacock*, not at thy command, assum
His glorious train. *Sa*

The *peacock's* plumes thy tackle must not

(2.) PEACOCK, in ornithology. See PAVO, III.

(3.) PEACOCK FISH, in ichthyology, *Pinn radiis 55, caudali falcati.* The body is of va colours; the fin of the anus has 55 streaks, its tail is in the form of a crescent. The he without scales; it is brown upon the upper yellow above the eyes, and of a silver colou the sides. The back is round, and adorned beautiful blue streaks in a serpentine form; the belly bright as silver. The fins of the h are round, and, like those of the belly, have a low ground with a grey border; that of the is of a violet colour; that of the anus is stra loured; and, lastly, that of the tail is yello the sides, red towards the middle, and bord with a deep blue. Its length is not kn There is a variety of this fish found only i Indian seas, and therefore called the *Indian cock fish*; which is thus described in the lang of Linnæus: *Pavo pinna caudali forcipata: dorsalibus 14: ocello cæruleo pone oculos.* It ha fin of its tail forked; 14 sharp points or pri on the back, with a round blue streak behin eyes. The body of this fish is of an elliptical f the head is covered with scales to the tip o snout; the two jaws are armed with long sharp teeth; the ball of the eye is black, an iris of a white colour with a mixture of g At the insertion of the fins of the belly is fo bony substance. The head, back, and sides of a yellow colour, more or less deep, and c ed with lines or streaks of sky blue. The lours are so agreeably mixed, that they rese the elegance of the peacock's tail.

PEAGE, a town of France, in the de Drome, on the S. bank of Isere, opposite Ro

(1.) * PEAHEN. *n. s.* [*pea* and *hen*; *pava* The female of the peacock.

(2.) PEAHEN. See PAVO, N° III.

(1.) * PEAK. *n. s.* [*peac*, Saxon; *pique* French.] 1. The top of a hill or eminence.—

Thy sister seek,
Or on Meander's bank or Latmus' *peak.*

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1. Any thing acuminated. 3. The rising fore part of a head-dress.

(2.) PEAK, a mountain of Ireland, in Cork, Munster; in which there are several subterraneous caverns, wherein a great number of human skeletons were discovered in 1755.

(3.) PEAK BAY, a bay on the S. coast of Jamaica. Lon. 76. 58. W. Lat. 17. 59. N.

(4.) PEAK OF DERBYSHIRE, a chain of very high mountains in Derby, famous for the mines they contain, and for their remarkable caverns. The most remarkable of these are Pool's-hole and Elden-hole. The former is a cave at the foot of a high hill called *Coitmoss*, so narrow at the entrance that passengers are obliged to creep on all-fours; but it soon opens to a considerable height, extending to above a quarter of a mile, with a roof somewhat resembling that of an ancient cathedral. By the petrifying water continually dropping in many parts of the cave are formed a variety of curious figures and representations of the works both of nature and art. There is a column here as clear as alabaster, which is called *The Queen of Scots's Pillar*, because Q. Mary is said to have proceeded thus far when she visited the cavern. After sliding down the rock a little way, is found the dreary cavity turned upwards: following its course, and climbing from crag to crag, the traveller arrives at a great height, till the rock, closing over his head on all sides, puts an end to any further subterraneous journey. Just at turning to descend, the attention is caught by a chasm, in which is seen a candle glimmering at a vast depth underneath. The guides say, that the light is at a place near Mary Queen of Scots's pillar, and no less than 80 yards below. It appears dreadfully deep indeed to look down; but perhaps does not measure any thing like what it is said to do. If a pistol is fired by the Queen of Scots's pillar, it will make a report as loud as a cannon. Near the extremity there is a hollow in the roof, called the *Needle's Eye*; in which if a candle is placed, it will represent a star in the firmament to those who are below. At a little distance from the cave is a small clear stream consisting of hot and cold water, so near each other, that the finger and thumb of the same hand may be put, the one into the hot water and the other into the cold. Elden-hole is a dreadful chasm in the side of a mountain; which, before the end of the 17th century, was thought to be altogether unfathomable. (See ELDEN-HOLE.) In 1699 Captain Sturmy, well-reeded by ropes fixed at the top of an old leaden pot, 4 fathoms almost perpendicular, and from thence 3 fathoms more obliquely, between 2 great rocks. At the bottom of this he found an entrance into a very spacious cavern, whence he descended along with a miner for 25 fathoms perpendicular. At last they came to a great water, which he found to be 20 fathoms broad and 8 deep. As they walked by the side of this water, they observed a hollow in the rock some feet above them. The miner went into this place, which was the mouth of another cavern; and walked for about 70 paces in it. The floor of this caverns is a kind of white stone enamelled with lead ore, and the roofs are encrusted with shining spar. On his return from this subterraneous journey, Captain Sturmy was seized with a violent head-ach, which, after continuing four days, terminated in a fever, of which he died in a short time.

(5.) PEAK OF TENERIFFE. See TENERIFFE.

(6.) PEAK, ST GEORGES, or PICO. See AZORES.

(7.) PEAK'S HOLE, and POOL'S HOLE, called also *the Devil's A—se*, two remarkable horizontal springs under mountains; the one near Castletown, the other just by Buxton. They seem to have owed their origin to the springs which have their current through them; when the water had forced its way through the horizontal fissures of the strata, and had carried the loose earth away with it, the loose stones must fall down of course: and where the strata had few or no fissures, they remained entire; and so formed these very irregular arches, which are now so much wondered at. The water which passes through Pool's Hole is impregnated with particles of lime-stone, and has incrusted the whole cavern in such a manner, that it appears as one solid rock.

(8.) PEAKS OF OTTER, the highest parts of the BLUE MOUNTAINS, in N. America. They are 4000 feet above the sea level.

* *To* PEAK. *v. n.* [*pequeño*, Spanish, *little*, perhaps *lean*: but I believe this word has some other derivation: we say a withered man has a sharp face; Falstaff dying, is said to have *a nose as sharp as a pen*: from this observation, a sickly man is said to *peak* or grow acuminated, from *pique*.] 1. To look sickly.—

Weary se'nnights, nine times nine,
Shall he dwindle, *peak* and pine. *Shak. Macb.*

2. To make a mean figure; to sneak.—

I, a dull and muddy mettled rascal, *peak*,
Like John a dreams, unpregnant of my cause.
Shak.

—The *peaking* cornuto her husband, dwelling in a continual larum of jealousy, comes me in the instant of our encounter. *Shak.*

* PEAL. *n. s.* [Perhaps from *pello*, *pellere tympana*.] 1. A succession of loud sounds: as, of bells, thunder, cannon, loud instruments.—They were saluted by the way, with a fair *peal* of artillery from the tower. *Hayward.*—It shall be the last *peal* to call the judgments of God upon men. *Bacon's Essays.*—Woods of oranges will smell into the sea perhaps 20 miles; but what is that, since a *peal* of ordnance will do as much? *Bacon.*—

A *peal* shall rouse their sleep. *Milt. Par. Reg.*
Vanquish'd with a *peal* of words, O weakness!
Gave up my fort of silence to a woman. *Milt.*
Peals of shouts that rend the heav'ns. *Dryden.*
Oh! for a *peal* of thunder that would make
Earth, sea, and air, and heaven and Cato tremble! *Addis.*

2. It is once used by *Shakespeare* for a low dull noise, but improperly.—

Ere to black Hecate's summons
The shard born beetle with his drowsy hums,
Hath rung night's yawning *peal*, there shall be done
A deed of dreadful note. *Shak. Macb.*

(1.) * *To* PEAL. *v. n.* [from the noun.] To play solemnly and loud.—

Let the *pealing* organ blow,

To

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To the full-voic'd quire below. *Milton.*
The *pealing* organ, and the pauſing choir.
Tickel.

(2.) * *To* PEAL. *v. a.* 1. To aſſail with noiſe.—
Nor was his ear leſs *peal'd*
With noiſes loud and ruinous. *Milt.*
2. To ſtir with ſome agitation: as, to *peal* the pot, is when it boils to ſtir the liquor therein with a ladle. *Ainſ.*

(1.) PEAN, in heraldry, is when the field of a coat of arms is ſable, and the powderings or.

(2.) PEAN. See PÆAN.

PEAPS, William, a dramatic writer, in the reign of Charles I. He ſtudied at Eton, and wrote a piece entitled, *Love in its extaſy, or the large Prerogative:* 4to. 1649.

(1.) * PEAR. *n. ſ.* [*poire*, French; *pyrum*, Lat.] The ſpecies are 84: 1. Little muſk *pear*, commonly called the ſupreme. 2. The Chio *pear*, commonly called the little baſtard muſk *pear*. 3. The haſting *pear*, commonly called the green chiſſel. 4. The red muſcadelle, it is alſo called the faireſt. 5. The little muſcat. 6. The jargoneile. 7. The Windſor *pear*. 8. The orange muſk. 9. Great blanket. 10. The little blanket *pear*. 11. Long ſtalked blanket *pear*. 12. The ſkinleſs *pear*. 13. The muſk robin *pear*. 14. The muſk drone *pear*. 15. The green orange *pear*. 16. Caſſolette. 17. The Magdalene *pear*. 18. The great onion *pear*. 19. The Auguſt muſcat. 20. The roſe *pear*. 21. The perfumed *pear*. 22. The ſummer bon chrêtien, or good chriſtian. 23. Saviati. 24. Roſe water *pear*. 25. The choaky *pear*. 26. The ruſſelet *pear*. 27. The prince's *pear*. 28. The great mouth water *pear*. 29. Summer burgamot. 30. The Autumn burgamot. 31. The Swiſs burgamot. 32. The red butter *pear*. 33. The dean's *pear*. 34. The long green *pear*; it is called the Autumn month water *pear*. 35. The white and grey monſieur John. 36. The flowered muſcat. 37. The vine *pear*. 38. Rouſſeline *pear*. 39. The knave's *pear*. 40. The green ſugar *pear*. 41. The marquis's *pear*. 42. The burnt cat; it is alſo called the Virgin of Xantonee. 43. Le Beſidery; it is ſo called from Heri, which is a foreſt in Bretagne between Bennes and Nantz, where this *pear* was found. 44. The craſane, or burgamot craſane; it is alſo called the flat butter *pear*. 45. The lanſac, or dauphin *pear*. 46. The dry martin. 47. The villain of Anjou; it is alſo called the tulip *pear* and the great orange. 48. The large ſtalked *pear*. 49. The Amadot *pear*. 50. Little lard *pear*. 51. The good Lewis *pear*. 52. The colmar *pear*; it it is alſo called the manna *pear*, and the late burgamot. 53. The winter long green *pear*, or the landry wilding. 54. La Virgoule, or La virgoleuſe. 55. Poire d'Ambrette; this is ſo called from its muſky flavour, which reſembles the ſmell of the ſweet ſultan flower, which is called Ambrette in France. 56. The winter thorn *pear*. 57. The St Germain *pear*, or the unknown of la Fare; it being firſt diſcovered upon the banks of a river called by that name in the pariſh of St Germain. 58. The St. Auguſtine. 59. The Spaniſh bon chrêtien. 60. The pound *pear*. 61. The wilding of Caſſoy, a foreſt in Britanny, where it was diſcovered. 62. The lord Martin *pear*. 63. The winter citron *pear*; it is alſo called t muſk orange *pear* in ſome places. 64. The w ter roſſelet. 65. The gate *pear*: this was diſ vered in the province of Poictou, where it much eſteemed. 66. Bergamotte Bugi; it is a called the Eaſter burgamot. 67. The winter b chrêtien *pear*. 68. Catillac or cadillac. 69. paſtourelle. 70. The double flowering *pear*. St. Martial; it is alſo called the angelic *pear*. The wilding of C aumontelle. 73. Carmel 74. The union *pear*. 75. The aurate. 76. T fine preſent; it is alſo called St Sampſon. Le rouſſelet de Reims. 78. The ſummer th *pear*. 79. The egg *pear*; ſo called from the gure of its fruit, which is ſhaped like an egg. The orange tulip *pear*. 81. La manſuette. The German muſcat. 83. The Holland bur mot. 84. The *pear* of Naples. *Miller.*—T would whip me with their fine wits, till I were creſt fallen as a dried *pear*. *Shak. Merch. of Ve* —Auguſt ſhall bear the form of a young man, a choleric aſpect, upon his arm a baſket of *pe* plums, and apples. *Peach.*—

The juicy *pear*
Lies in a ſoft profuſion ſcatter'd round. *Th*

(2.) PEAR, in botany. See PYRUS.

(3.) PEAR, ALLIGATOR. } See LAURUS, N
(3.) PEAR, AVOCADO. }

(4.) PEAR, BACHELOR'S, a ſpecies of SO NUM.

(5.) PEAR, GARLICK. See CRATEVA, N° 2

(6.) PEAR, PRICKLY, a ſpecies of CACTUS.

PEARCE, Dr Zachary. Bp. of Rocheſter, the ſon of a diſtiller in High Holborn. He born in 1690, and educated at Weſtminſter, wh he was diſtinguiſhed by his merit, and elected of the king's ſcholars. In 1710, when he wa years old, he was elected to Trinity College, C bridge. During the firſt years of his reſidence the univerſity, he wrote eſſays, ſome of which inſerted in the *Guardian* and *Spectator*. In 1 he publiſhed his edition of *Cicero de Oratore*, luckily dedicated it to Lord Chief Juſtice Pa (afterwards Earl of Macclesfield), to whom was a ſtranger. This laid the foundation of future fortune; for Lord Parker recommen him to Dr Bentley, maſter of Trinity, to be m one of the fellows. In 1717, Mr Pearce was dained at the age of 27; In 1718, Lord Pa was appointed chancellor, and invited Mr Pe to live with him as chaplain. In 1719, he inſtituted rector of Stapleford Abbots, in Eſ in 1720, of St Bartholomew, worth 400l. *per num*: In 1723, he was preſented to St Martin the Fields. In 1722, he married Miſs Adams, daughter of a diſtiller, with a conſiderable fort who lived with him in the higheſt connubial h pineſs. Mr Pearce ſoon attracted the notice eſteem of perſons in the higheſt ſtations and the greateſt abilities; In 1724, the degree of D was conferred on him by Abp. Wake. The f year he dedicated to the earl of Macclesfield, edition of *Longinus on the Sublime*, with a new tin verſion and notes. When the church of Martin's was rebuilt, Dr Pearce preached a mon at the conſecration, which he printed, accompanied with *an Eſſay on the origin and greſs of Temples*, traced from the rude ſtones wh

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were firſt uſed for altars to the noble ſtructure of Solomon, which he conſiders as the firſt temple completely covered. Dr Pearce was appointed dean of Winchester in 1739; and in 1744 he was elected prolocutor of the lower houſe of convocation for Canterbury. He was conſecrated Bp. of Bangor, Feb. 12. 1748. Upon the death of Bp. Wilcocks he was promoted to the ſee of Rocheſter and deanery of Weſtminſter in 1756. In 1768 he reſigned the deanery; in 1773, he loſt his lady; and after ſome months of lingering decay he died at Little Ealing, June 29, 1774, aged 85. This eminent prelate diſtinguiſhed himſelf in every part of his life by the virtues proper to his ſtation. His literary abilities, and application to ſacred and philological learning, appear by his works; the principal of which are, 1. A letter to the clergy of the church of England, on occaſion of the Bp. of Rocheſter's commitment to the Tower, 2d edit. 1722. 2. Miracles of Jeſus vindicated, 1727 and 1728. 3. A review of the text of Milton, 1733. 4. Two letters againſt Dr Middleton, occaſioned by the doctor's letter to Waterland, on the publication of his treatiſe, intitled, *Scripture Vindicated*, 2d edit. 1752. And 5. ſince his death, a commentary with notes on the four Evangeliſts and the Acts of the Apoſtles, with a new tranſlation of St Paul's firſt Epiſtle to the Corinthians, with a paraphraſe and notes, have been publiſhed, with his life prefixed, from original MSS. in 2 vols. 4to.

(1.) * PEARCH. *n. ſ.* [*pertica*, Lat.] 1. A long pole for various uſes. 2. A kind of fiſh.

(2.) PERCH, in ichthyology. See PERCA. The perch affords good ſport for the angler. The beſt time for their biting is when the ſpring is over, and before the heats of ſummer come on. At this time they are very greedy; and the angler, with good management, may take at one ſtanding all that are in the hole be they ever ſo many. The proper baits are minnows or young frogs; but the worm called the *brandling*, well ſcoured, is alſo excellent at all times of the year. When the fiſh bites, he ſhould always have a great deal of time allowed him to ſwallow the bait. The perch will bite all day if the weather be cloudy; but the beſt time is from 8 to 10 A. M. and from 4 to 6 P. M. The perch is very abſtemious in winter, and will ſeldom bite in this ſeaſon; if he bites at all, it is in the middle of the day: at which time indeed all fiſh bite beſt. If the bait be a minnow, which is the bait that affords moſt diverſion to the angler, it muſt be faſtened to the hook alive, by putting the hook through the upper lip or back-fin; it muſt be kept at about mid-water, and the float muſt be a quill and a cork, leſt the minnow alone may not be able to ſink it. The line muſt be of ſilk, and ſtrong; and the hook armed with a ſmall and fine wire, that if a pike ſhould take the bait, as is not unfrequently the caſe, he may be taken. The way to carry the minnows or ſmall gudgeons alive for baits is this: A pot is to be provided, with holes in the lid, and filled with water; and the fiſh being put in the water is to be changed once in a quarter of an hour by the holes, without taking off the lid all the time, except when the bait is to be taken out. A ſmall caſting net, made for theſe little fiſh, muſt be taken out with the perch-tackle; and one or two caſts of this will take baits enough for the day without any farther trouble. When the bait is a frog, the hook is to be faſtened to the upper part of the leg. The beſt place for the fiſhing for perch is in the turn of the water near ſome gravelly ſcour. A place of this kind being pitched upon, it ſhould be baited over-night with lobworms chopped to pieces; and in the morning on going to it, the depth is to be regularly plumbed, and then the hook is to be baited with the worm or other bait; and as it drags along, the perch will ſoon ſeize upon it.

(3.) PEARCH GLUE, a kind of glue, of remarkable ſtrength and purity, made from the ſkins of pearches.

* PEARCH-STONE. *n. ſ.* [from *pearch* and *ſtone*.] A ſort of ſtone.

PEAR-GLASS, or rather *Glaſs Pear*, is ſynonimous with GLASS DROPS, or GLASS TEARS, *Prince Rupert's drops*. See RUPERT'S DROPS.

(1.) * PEARL. *n. ſ.* [*perle*, Fr. *perla*, Spaniſh: ſuppoſed by *Salmaſius* to come from *ſpherula*, Latin.] 1. *Pearls*, though eſteemed of the number of gems by our jewellers, are but a diſtemper in the creature that produces them: the fiſh in which pearls are moſt frequently found is the Eaſt Indian berbes or *pearl* oyſter: others are found to produce *pearls*; as the common oyſter, the muſcle, and various other kinds: but the Indian *pearls* are ſuperior to all: ſome *pearls* have been known of the ſize of a pigeon's egg: as they increaſe in ſize, they are leſs frequent and more valued: the true ſhape of the pearl is a perfect round; but ſome of a conſiderable ſize are of the ſhape of a pear, and ſerve for ear rings. *Hill.*—A *pearl*-julep was made of a diſtilled milk. *Wiſeman.*—

Flow'rs purfled, blue and white,
Like ſapphire, *pearl*, in rich embroidery. *Shak.*

—Cataracts *pearl*-coloured, and thoſe of the colour of burniſhed iron, are eſteemed proper to endure the needle. *Sharp.* 2. [Poetically.] Any thing round and clear, as a drop.—

Dropping liquid *pearl*,
Before the cruel queen, the lady and the girl
Upon their tender knees begg'd mercy. *Drayt.*

(2.) * PEARL. *n. ſ.* [*albugo*, Lat.] A white ſpeck or film growing on the eye. *Ainſ.*

(3.) PEARL, in geography, an iſland in the Gulf of Mexico, near the mouth of the Miſſiſippi; 7 miles long and 4 broad.

(4.) PEARL, another iſland of the W. Indies; in Lon. 79. 13. W. Lat. 14. 53. N.

(5.) PEARL, a river of W. Florida, which runs into Lake Pontchartrain; 13 m. ENE. of New Orleans.

(6.) PEARL, a river of Georgia, which riſes in the W. part of the Chactaw country, runs S. to the Gulf of Mexico, into which it falls by ſeveral mouths, at the E. end of the Regolets. It is navigable for above 150 miles.

(7.) *A* PEARL, (§ 1 *Def.* 1.) in natural hiſtory, is a hard, white, ſhining body, uſually roundiſh, found in a teſtaceous fiſh reſembling an oyſter. (See MYA, N° 2.) Pearls are analogous to the bezoars and other ſtony concretions in ſeveral animals of other kinds. The fiſh in which theſe are uſually produced is the Eaſt Indian pearl-oyſter. Beſides this ſhell, there are many others that are found to produce pearls; as the common oyſter, the muſcle, and ſeveral others; the pearls of which are the

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often very good; but those of the true Indian *berberi*, or pearl oyster, are in general superior to all. The small or seed-pearls, also called *ounce pearls*, from their being sold by the ounce and not by tale, are vastly the most numerous and common. We have Scotch pearls frequently as big as a little tare, some as big as a large pea, and some few of the size of a horse-bean; but these are usually of a bad shape, and of little value in proportion to their weight. Philip II. of Spain had a pearl perfect in its shape and colour, and of the size of a pigeon's egg. Their colour ought to be a pure white; and that not a dead and lifeless, but a clear and brilliant one: they must be perfectly free from any foulness, spot, or stain; and their surfaces must be naturally smooth and glossy; for they bring their natural polish with them, which art is not able to improve. All pearls are formed of the matter of the shell, and consist of a number of coats spread with perfect regularity one over another, in the manner of the several coats of an onion, or like the several strata of the stones found in the bladders or stomachs of animals, only much thinner.

(8.) PEARL FISH. See MYA, N° 2. Very little is known of the natural history of the pearl fish. Mr Bruce says, that, as far as he has observed, they are all stuck upright in the mud by an extremity: the muscle by one end, the pinna by the small sharp point, and the third by the hinge or square part which projects from the round. "In shallow and clear streams (says Mr Bruce), I have seen small furrows or tracks upon the sandy bottom, by which you could trace the muscle from its last station; and these not straight, but deviating into traverses and triangles, like the course of a ship in a contrary wind laid down upon a map, probably in pursuit of food. The general belief is, that the muscle is constantly stationary in a state of repose, and cannot transfer itself from place to place. This is a vulgar prejudice, and one of those facts that are mistaken, for want of sufficient pains or opportunity to make more critical observations. Others, finding the first opinion a false one, and that they are endowed with power of changing place like other animals, have, upon the same foundation, gone into the contrary extreme, so far as to attribute swiftness to them, a property surely inconsistent with their being fixed to rocks." Our author informs us, that the muscles found in the salt springs of Nubia likewise travel far from home, and are sometimes surprised, by the ceasing of the rains, at a greater distance from their beds than they have strength and moisture to carry them. He assures us, that none of the pearl-fish are eatable; and that they are the only fish he saw in the Red Sea that cannot be eaten. But no attempt towards motion or change of place has ever been observed in the pearl fish of Perthshire. The pearl-fish has been hitherto considered as an *ascidia*, (see MYTILUS,) but a late author, who paid great attention to the pearl fishery at Ceylon, denies this, and says it has no resemblance to the ascidia. He supposes it a distinct genus. The pearls are only found in the soft part of the animal, on both sides of the mouth. From the shells a judgment may be formed, whether they contain pearls. Those which have a thick calcareous crust on them, which, *serpulæ*, *Tubuli marini*, *Cristagalli*, *Madrepores*, *Millipores*, *Spongiæ*, and other zoophyt adhere, commonly contain the best pearls: t smooth ones either none or very small ones.

(9.) PEARLS, DIFFERENT COLOURS, KINDS A VALUE OF. The colours of pearls are differ according to the shells in which they are fou There are 3 kinds of bivalve shells chiefly sou after by the pearl fishers. The 1st is a kind muscle chiefly found in the N. end of the Red S It produces pearls of a fine shape and excel lustre, but seldom of that very fine colour wh enhances their price. The 2d kind called Pin is broad and semicircular at the top, and shar the hinge, the outside rough and red, the inside with mother of pearl. It produces pearls ha the reddish cast of the inner sheil of the pinna, led *mother of pearl*; which confirms the opi of Reaumur, that the pearls are formed from glutinous fluid which makes the first rudimen the shell; and this kind of pearl is found t more red as it is formed nearer the broad pa the shell, which is redder than the other The third sort of shell resembles the oyster, produces pearls of extreme whiteness. The of these commodities depends upon their re gularity of form, whether round or not, we smoothness, colour, and the different shad that colour. The pearl fishers say, that the shell is smooth and perfect, they expect to find any pearls, but always do so it has begun to be deformed and distorted. I it would seem, that as the fish turned olde vessels containing the juice for forming the and keeping it in its vigour, grew weak an tured; and thence, from this juice accumulat the fish, the pearl was formed, and the shell br to decay, as supposed by Mr Reaumur. be the case, it ought to be known by the fi the sheli whether the pearl is large or small thus the smaller ones being thrown back in sea, a constant crop of large pearls might tained. Pearls were anciently rated at v travagant prices. Servilia, the mother of B Brutus, presented one to Cæsar of the va 50,000 l. of our money; and Cleopatra di one worth 250,000 l. in vinegar, which she at a supper with Mark Antony!

(10.) PEARLS FISHERIES OF. The many rivers great and small in Eastern considerable for pearl-fishery; but these though much esteemed by the Tartars, w little valued by Europeans, on account defects in shape and colour. The Empero hi had several chaplets or strings of these each containing 100, which were very la exactly matched. There are many rivule vonia which produce pearls almost equa and clearness to the oriental ones. Ther veral fisheries both on the E. and W. c Africa; the most considerable of which li some small islands, over-against the king Sofala; but the people thus employed, inste poling the oysters to the warmth of the su would induce them to open, lay them upon bers; by which absurd method, those pear they catch contract a dull kind or redness

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robs them of their natural luſtre as well as of their value. Pearl-fiſhing is performed by the women as well as the men; both being equally expert. In the ſea of California alſo there are very rich pearl-fiſheries. The moſt eſteemed pearls are thoſe of Aſia and the E. coaſt of Africa. In the kingdom of Madura there are many pearl fiſheries. (See TUTUCORIN.) In Japan likewiſe there are found pearls of great price. Pearls are met with in all parts of the Red Sea, in the Indian Ocean, on the low part of the coaſt of Arabia Felix named *Bahren*, adjoining to the Perſian Gulf. They are likewiſe found on the low coaſt about Gunibroom E. of the Perſian Gulf; and many of the fineſt kind are met with on the coaſts of Ceylon. They are moſt plentiful in the Baharen, between the coaſt of Arabia Felix and Ormus, whence they are tranſported to Aleppo, then ſent to Leghorn, and then circulated through Europe. Linnæus diſcovered a method of putting the pearl muſcles into a ſtate of producing pearls at his pleaſure. (See MYA, N° 2.) In Scotland, eſpecially to the northward, in all rivers running from lakes, there are found muſcles that have pearls of more than ordinary merit, though ſeldom of large ſize. In this county there was a very great fiſhery of pearls, got out of the freſh-water muſcles. (See MYA, N° 2.) From 1761 to 1764, 10,000l. worth were ſent to London, and ſold from 10s. to 1l. 12s. per ounce. One pearl was taken there that weighed 33 grains. But this fiſhery is at preſent exhauſted, from the avarice of the undertakers: it once extended as far as Loch-Tay.

(11.) PEARLS, MANNER OF FISHING FOR, IN THE EAST INDIES.—There are two ſeaſons for pearl-fiſhing: the firſt is in March and April, and the laſt in Aug. and Sept. and the more rain there falls in the year, the more plentiful are theſe fiſheries. At the beginning of the ſeaſon there are ſometimes 250 barks on the banks; the larger barks have two divers, and the ſmaller one. As ſoon as the barks arrive at the place where the fiſh lie, and have caſt anchor, each diver binds a ſtone, ſix inches thick and a foot long, under his body; which ſerves him as a ballaſt, prevents his being driven away by the motion of the water, and enables him to walk more ſteadily under the water. They alſo tie another very heavy ſtone to one foot, by which they are very ſpeedily ſent to the bottom of the ſea; and as the oyſters are uſually firmly faſtened to the rocks, they arm their hands with leather mittens, to prevent their being wounded in pulling them violently off; but this taſk ſome perform with an iron rake. Each diver carries down with him a large net in the manner of a ſack, tied to his neck by a long cord, the other end of which is faſtened to the ſide of the bark. This net is to hold the oyſters gathered from the rock, and the cord is to pull up the diver when his bag is full, or when he wants air. In this equipage he ſometimes precipitates himſelf to a great depth under water; and as he has no time to loſe, he no ſooner arrives at the bottom, than he begins to run from ſide to ſide, tearing up all the oyſters he meets with, and cramming them into his budget. At whatever depth the divers are, the light is ſo great, that they eaſily ſee whatever paſſes in the ſea; and, to their great conſterna-

tion, ſometimes perceive large ſharks, from which all their addreſs in muddying the water, &c. will not always ſave them, but they unhappily become their prey: and of all the dangers of the fiſhery, this is one of the greateſt and moſt uſual. (See PANAMA, N° 1.) The beſt divers will not keep under water above two minutes, according to M. Le Beck, though others abſurdly affirm, that they will continue half an hour. When they find themſelves ſtraitened, they pull the rope to which the bag is faſtened, and hold faſt by it with both hands: when thoſe in the bark, taking the ſignal, heave them up into the air, and unload them of their fiſh; which is ſometimes 500 oyſters, and ſometimes not above 50. Some of the divers need a ſhort reſpite to recover breath; others jump in again inſtantly, continuing this violent exerciſe for ſeveral hours. On the ſhore they unload their barks, and lay their oyſters in a vaſt number of little pits dug in the ſand 4 or 5 feet ſquare, raiſing heaps of ſand over them to the height of a man; and in this condition they are left to the rain, wind, and ſun, have obliged them to open, which ſoon kills them: upon this the fleſh rots and dries, and the pearls, thus diſengaged, fall into the pit on their taking out the ſhells. After clearing the pits of the groſſer filth, they ſift the ſand ſeveral times in order to find the pearl; but, whatever care they take, they always loſe a great number. After cleaning and drying the pearls, they are paſſed through a kind of ſieve, according to their ſizes; the ſmalleſt are then ſold by weight as *ſeed-pearls*, and the reſt put up to auction, and ſold to the higheſt bidder.

(12.) PEARLS, METHOD OF FISHING FOR, IN PERTHSHIRE. The rev. Dr James Robertſon, in his Statiſtical Account of Callander, deſcribes the pearl fiſhery as practiſed in this county, as follows: "They are fiſhed with a kind of ſpear, conſiſting of a long ſhaft, and ſhod at the point with two iron ſpoons, having their mouths inverted; their handles are long and elaſtic, and joined at the extremity, which is formed into a ſocket, to receive the ſhaft. With this machine in his hand, by way of ſtaff, the fiſher, being often up to the chin in water, gropes with his feet for the muſcles, which are fixed in the mud and ſand by one end, and preſſes down the iron ſpoons upon their point; ſo that by the ſpring in the handles, they open to receive the muſcle, hold it faſt, and pull it up to the ſurface of the water. He has a pouch or bag of net-work hanging by his ſide, to carry the muſcles till he come a-ſhore, where they are opened. The operation is much eaſier in ſhallow water." *Stat. Acc.* XI, 599.

(13.) PEARLS, METHOD OF MAKING ARTIFICIAL. Attempts have been made to take out ſtains from pearls, and to render the foul opaque-coloured ones equal in luſtre to the oriental. Abundance of proceſſes are given for this purpoſe in books of ſecrets and travels; but they are very far from anſwering what is expected from them. Pearls may be cleaned indeed from any external foulneſſes by waſhing and rubbing them with a little Venice ſoap and warm water, or with ground rice and ſalt, with ſtarch and powder-blue, plaſter of Paris, coral, white vitriol and tartar, cuttle-bone, pumice-ſtone, and other ſimilar ſubſtances;

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ſtances; but a ſtain that reaches deep into the ſubſtance of pearls is impoſſible to be taken out. Nor can a number of ſmall pearls be united into a maſs ſimilar to an entire natural one, as ſome pretend. There are, however, methods of making artificial pearls, in ſuch a manner as to be with difficulty diſtinguiſhed from the beſt oriental. The ingredient uſed for this purpoſe was long kept a ſecret; but it is now diſcovered to be a fine ſilver-like ſubſtance found upon the under ſide of the ſcales of the blay or bleak-fiſh. The ſcales, taken off in the uſual manner, are waſhed and rubbed with freſh parcels of fair water, and the ſeveral liquors ſuffered to ſettle: the water being then poured off, the pearly matter remains at the bottom, of the conſiſtence of oil, called by the French *eſſence d'orient*. A little of this is dropped into a hollow bead of bluiſh glaſs, and ſhaken about ſo as to line the internal ſurface; after which the cavity is filled up with wax, to give ſolidity and weight. Pearls made in this manner are diſtinguiſhable from the natural only by their having fewer blemiſhes.

PEARL-ASH, a kind of fixed alkaline ſalt, prepared chiefly in America, Germany, Ruſſia, and Poland, by melting the ſalts out of the aſhes of burnt wood; and having reduced them again to dryneſs, evaporating the moiſture, and calcining them for a conſiderable time in a furnace moderately hot. The goodneſs of pearl aſhes muſt be diſtinguiſhed by the uniform and white appearance of them: they are nevertheleſs ſubject to a common adulteration, not eaſy to be diſtinguiſhed by the mere appearance, which is done by the addition of common ſalt. In order to find out this fraud, take a ſmall quantity of the ſuſpected ſalt: and after it has been ſoftened by lying in the air, put it over the fire in a ſhovel: if it contains any common ſalt, a crackling and a kind of ſlight exploſion will take place as the ſalt grows hot. Pearl-aſhes are much uſed in the manufacture of glaſs, and require no preparation, except where very great tranſparency is required, as in the caſe of looking-glaſs, and the beſt kind of window-glaſs. For this purpoſe diſſolve them in four times their weight of boiling water: when they are diſſolved, let the ſolution be put into a clean tub, and ſuffered to remain there 24 hours or more. Let the clear part of the fluid be then decanted off from the ſediment, and put back into the iron pot in which the ſolution was made; in this let the water be evaporated till the ſalts be left perfectly dry. Keep thoſe that are not deſigned for immediate uſe in ſtone jars, well ſecured from moiſture and air. Mr Kirwan, who has tried a courſe of experiments on the alkaline ſubſtances uſed in bleaching, &c. (ſee *Iriſh Tranſ.* for 1789), tells us, that in 100 parts of the Dantzick pearl-aſh, the vegetable alkali amounted to ſomewhat above 63. His pearl-aſh he prepares by calcining a ley of vegetable aſhes dried into a ſalt to whiteneſs. In this operation, he ſays, "particular care ſhould be taken that it ſhould not melt, as the extractive matter would not be thoroughly conſumed, and the alkali would form ſuch an union with the earthy parts as could not eaſily be diſſolved." He has alſo given tables of the quantities of aſhes and ſalt obtained from different vegetables: and he concludes from them, 1. "That in general weeds yield much more aſhes, and the aſhes much more ſalt, than woods; and that conſequently, as to ſalts of the vegetable alkali kind, neither American, Trieſte, nor the northern countries, poſſeſs any advantage over us. 2. That of all weeds, fumitary produces moſt ſalt, and next to it wormwood; but if we attend only to the quantity of ſalt in a given weight of aſhes, the aſhes of wormwood contain moſt. *Trifolium fibrinum* alſo produces more aſhes and ſalt than ſtern. See POTASH.

* PEARLED. *adj.* [from *pearl*.] Adorned or ſet with pearls.—

The water nymphs
Held up their *pearled* wriſts, and took her in *Milt*

* PEARLEYED. *adj.* [*pearl* and *eye*.] Having a ſpeck in the eye.

* PEARLGRASS. PEARLPLANT. PEARLWORT. *n. ſ.* Plants. *Ainſworth.*

PEARL ISLANDS, a cluſter of iſlands in Panama Bay, 36 miles from the city of Panama: ſo named from their coaſts abounding with pearls. (See PANAMA, N° 1.) They are low, and abound with wood, water, fruits, fowls and hogs; and have ſeveral good harbours. The northernmoſt *Pachea*, the ſouthernmoſt *St Paul's*. Lon. 81. W. Lat. 7. 10. N.

PEARL, MOTHER OF, the ſhell, not of the pearl oyſter, but of the *mytilus margaritiferus*. See MYTILUS, N° 6. The mother-of-pearl manufacture is brought to the greateſt perfection at Jeruſalem. The moſt beautiful ſhell of this kind is that of PINNA; but it is too brittle to be employed in many large pieces of workmanſhip; whence that known named *dora* is moſt uſually employed; and great quantities of this are daily brought from the Red Sea to Jeruſalem. Of theſe, all the fine work, the crucifixes, the wafer-boxes, and the beads, made, which are ſent to the Spaniſh dominions in the New World, and produce a return incomparably greater than the ſtaple of the greateſt manufactory in the Old.

PEARL-PLANT, &c. See PEARLGRASS.

* PEARLY. *adj.* [from *pearl*.] 1. Abounding with pearls; containing pearls.—

Some in their *pearly* ſhells at eaſe, attend *Mil*

2. Reſembling pearls.—

Which when ſhe heard, full *pearly* floods
I in her eyes might view. *Dray*
Plains adorn'd with *pearly* dew. *Dry*
For what the day devours, the nightly dew
Shall to the morn in *pearly* drops renew. *D*

—Another was inveſted with a *pearly* ſhell. *Wood*

(1.) * PEARMAIN. *n. ſ.* An apple.—*Pearmain* is an excellent and well known fruit. *Mortimer*

(2.) PEARMAIN. See PYRUS, N° 4.

PEARSON, John, a learned Engliſh biſhop born at Snoring, in 1613. He was educated at Eton and Cambridge; entered into orders in 16[illegible] and was made prebendary of Netherhaven in the church of Sarum. In 1640 he was appointed chaplain to the lord keeper Finch, and by him preſented to Torrington in Suffolk. In 165[illegible] was made miniſter of St Clement's, Eaſt cheap, London. About 1660 he publiſhed at London

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an Expoſition of the Creed, in folio; alſo, The Golden Remains of Mr John Hales of Eton; with a preface, and character, drawn with great elegance. In 1660 he was preſented by Juxon, Bp. of London, to the rectory of St Chriſtopher's in that city; created D. D. at Cambridge, inſtalled prebendary of Ely; archdeacon of Surry; and made maſter of Jeſus college in Cambridge. March 12th 1661, he was appointed Margaret profeſſor divinity, and in 1662, one of the commiſſioners for the review of the liturgy. April 14th 1662, he was admitted maſter of Trinity college in Cambridge; and, in Auguſt, reſigned his rectory of St Chriſtopher's and prebend of Sarum. In 1667 he was admitted F. R. S. In 1672 he publiſhed at Cambridge, in 4to, *Vindiciæ Epiſtolarum S. Ignatii*, or anſwer to M. Daillé; to which is ſubjoined, *Iſaaci Voſſii epiſtolæ duæ adverſus Davidem Blondellum*. Pearſon was appointed ſucceſſor to Bp. Wilkins in the ſee of Cheſter, Feb. 9th 1672-3. In 1683, his *Annales Cyprianici, ſive tredecim annorum, quos S. Cyprian. inter Chriſtianos verſatus eſt, hiſtoria chronologica*, was publiſhed at Oxford, with Fell's edition of that Father's works. He died at Cheſter July 16th 1686.

(1.) * PEARTREE. *n. ſ.* [*pear* and *tree*.] The tree that bears pears.—The *peartree* criticks will have to borrow his name of πυρ, fire. *Bacon.*

(2.) PEAR-TREE. See PYRUS, N° 1.

PEAS. See PEASBURN, and PEATHS.

(1.) * PEASANT. *n. ſ.* [*paiſant*, Fr.] A hind; one whoſe buſineſs is rural labour.—He holdeth himſelf a gentleman, and ſcorneth to work, which, he ſaith, is the life of a *peaſant* or churl. *Spenſer.*—

I had rather coin my heart, than wring
From the hard hands of *peaſants* their vile traſh.
Shak.

—The poor *peaſants* in the Alpine countries, diverted themſelves in the fields. *Brown's Travels.*—'Tis difficult for a *peaſant* bred up in the obſcurities of a cottage, to fancy in his mind the unſeen ſplendours of a court. *South.*—The citizens bring 1000 men, with which they could make head againſt 12,000 *peaſants*. *Addiſon.*

(2.) PEASANTS, being, in general, ſecluded from the means and opportunities of luxury and licentiouſneſs, are an order of men among whom a philoſopher would look for innocence and ſimplicity of manners. And indeed the peaſantry of Great Britain ſtill retain theſe virtues in a conſiderable degree. But in many other countries, they are neither ſo virtuous nor ſo happy. In moſt countries, and in moſt ages of the world, ſince the concluſion of the patriarchal age, they have been treated as ſlaves, and their morals of conſequence neglected and corrupted. Even in the celebrated ſtate of ancient Sparta, they were ſubjected to a degree of ſlavery, almoſt, if not altogether, as intolerable, as the worſt that has been repreſented of the African ſlaves in the W. Indies. (See HELOTS.) And in the greater part of modern Europe, they are ſtill conſidered as ſlaves, and their perſons transferred as property, to the great landed proprietors along with the ſoil. Mr Coxe in his *Travels in Ruſſia*, gives a moſt horrible picture of their ignorance and degeneracy in morals, by inceſtuous marriages, &c. They are, however, he ſays, well clothed, comfortably lodged, and enjoy plenty of wholeſome food, by which they acquire great bodily ſtrength. The peaſants of Finland are more civilized than the Ruſſians, and differ widely from them in looks, dreſs, and manners. Thoſe of Sweden are ſtill more improved. They are more honeſt, in better condition, and poſſeſs more of the conveniences of life, both in food and furniture, than thoſe of Poland and Ruſſia. Before the late revolutions, the peaſants of Holland and Switzerland were all in a very tolerable condition; not ſubject to the undiſputed controul of a hireling maſter, they were freemen, and enjoyed in their ſeveral ſtations the bleſſings of freedom. In Bohemia, Hungary, and a great part of Germany, they are legally ſlaves, and ſuffer all the miſeries attending ſuch a condition. In Spain, and Italy, they are little better. In France, their ſituation was ſuch as to warrant the firſt Revolution; and indeed theſe, and a few others of the lower ranks, ſeem now to be the only gainers by it.

* PEASANTRY. *n. ſ.* Peaſants; ruſticks; country people.—

How much low *peaſantry* would then be gleaned
From the true ſeed of honour? *Shak.*

—The *peaſantry* in France, under a much heavier preſſure of want and poverty than the day-labourers of England of the reformed religion, underſtood it much better than thoſe of a higher condition among us. *Locke.*

PEAS-BRIDGE. See PEATHS.

PEAS-BURN, a ſmall river in Berwick-ſhire; which runs through a ravine into the ſea, between Berwick and Dunbar. See PEATHS.

* PEASCOD. PEASHELL. *n. ſ.* [*pea*, *cod* and *ſhell*.] The huſk that contains peas.—

Thou art a ſheal'd *peaſcod*. *Shak.*

—I ſaw a green caterpillar as big as a ſmall *peaſcod*. *Walton.*—

As *peaſcods* once I pluck'd, I chanc'd to ſee
One that was cloſely fill'd with three times three.
Gay.

(1.) * PEASE. *n. ſ.* [*Pea*, when it is mentioned as a ſingle body, makes *peas*; but when ſpoken of collectively, as food or a ſpecies, it is called *peaſe*, anciently *peaſon*; *piſa*, Saxon; *pois*, French; *piſo*, Italian; *piſum*, Latin.] Food of peaſe.—

Sowe *peaſon* and beans in the wane of the moon. *Tuſſer.*

—*Peaſe*, deprived of any aromatic parts, are mild and demulcent; but, being full of aerial particles, are flatulent. *Arbuthnot.*

(2.) PEASE, in botany. See PISUM.

(1.) * PEAT. *n. ſ.* A ſpecies of turf uſed for fire.—Turf and *peat*, and cowſhcards are cheap fuels, and laſt long. *Bacon.*—Carew, in his ſurvey of Cornwall, mentions nuts found in *peat*-earth two miles Eaſt of St Michael's mount. *Woodw.*

(2.) * PEAT. *n. ſ.* [from *petit*, Fr.] A little fondling; a darling; a dear play thing. It is now commonly called *pet*.—

A pretty *peat*! *Shak.*
The wench a pretty *peat*. *Donne.*

(3.) PEAT, (§ 1.) is a well known inflammable ſubſtance, uſed in many parts of the world as fuel. There are two ſpecies: viz. 1. A yellowiſh brown

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or black peat, found in mooriſh grounds in Scotland, Holland, and Germany. When freſh, it is of a viſcid conſiſtence, but hardens by expoſure to the air. It conſiſts, according to Kirwan, of clay mixed with calcareous earth and pyrites; ſometimes alſo it contains common ſalt. While ſoft, it is formed into oblong pieces for fuel, after the pyritaceous and ſtony matters are ſeparated. By diſtillation it yields water, acid, oil, and volatile alkali; the aſhes containing a ſmall proportion of fixed alkali; and being either white or red, according to the proportion of pyrites contained in the ſubſtance. The oil obtained from peat has a very pungent taſte; and an empyreumatic ſmell, leſs fetid than that of animal ſubſtances, more ſo than that of mineral bitumens: it congeals in the cold into a pitchy maſs, which liquefies in a ſmall heat: it readily catches fire from a candle, but burns leſs vehemently than other oils, and immediately goes out upon removing the external flame: it diſſolves almoſt totally in rectified ſpirit of wine into a dark browniſh red liquor. 2. The 2d ſpecies is found near Newbury in Berkſhire. In the *Philoſ. Tranſ.* for 1757, we have the following account of this ſpecies: Peat is a compoſition of the branches, twigs, leaves, and roots of trees, with graſs, ſtraw, plants, and weeds, which having lain long in water, is formed into a maſs ſo ſoft as to be cut through with a ſharp ſpade. The colour is a blackiſh brown, and it is uſed in many places for firing. There is a ſtratum of this peat on each ſide the Kennet, near Newbury in Berks, which is from about a quarter to half a mile wide, and many miles long. The depth below the ſurface of the ground is from one foot to 8. Great numbers of entire trees are found lying irregularly in the true peat. They are chiefly oaks, alders, willows, and firs, and appear to have been torn up by the roots: many horſes heads, and bones of ſeveral kinds of deer; the horns of the antelope, the heads and tuſks of boars, and the heads of beavers, are alſo found in it. Not many years ago, an urn of a light brown colour, large enough to hold about a gallon, was found in the peat-pit in Speen moor, near Newbury, at about 10 feet from the river, and four feet below the level of the neighbouring ground. Juſt over the ſpot where the urn was found, an artificial hill was raiſed about 8 feet high; and as this hill conſiſted both of peat and earth, it is evident that the peat was older than the urn. From the ſide of the river ſeveral ſemicircular ridges are drawn round the hill, with trenches between them. The urn was broken to ſhivers by the peat-diggers who found it, ſo that it could not be critically examined. With peat alſo may be claſſed that ſubſtance called in England *ſtone-turf*; which hardens after its firſt expoſure to the air, but afterwards crumbles down. The other common turf conſiſts only of mould interwoven with the roots of vegetables; but when theſe roots are of the bulbous kind, or in large proportion, they form the worſt kind of turf. "Although it may appear incredible (ſays M. Magellan), it is nevertheleſs a real fact, that, in England, pit-turf is advantageouſly employed in Lancaſhire to ſmelt the iron ore of that county. Mr Wilkinſon, brother-in-law to Dr Prieſtley, makes uſe of pit-turf in his large ſmelting furnaces. I have ſeen in the poſſeſſion of Mr S. More, ſecretary to the Society of Arts, a kind of black tallow, extracted by the ſaid Mr Wilkinſon from pit-turf. It was very ſoft, and nearly of the ſame conſiſtence with butter. It burnt very rapidly, with a ſmoky flame in the fire; but the ſmell was very diſagreeable, like that of pit-turf." The great cauſe of the differences of peat moſt likely ariſes from the different mineral admixtures. Some ſorts of peat yield in burning a very diſagreeable ſmell, which extends to a great diſtance; whilſt others are inoffenſive. Some burn into grey or white, and others into red ferruginous aſhes. The aſhes yield, on elixation, a ſmall quantity of alkaline ſalt, with ſometimes one, and ſometimes another ſalt of the neutral kind. The ſmoke of peat does not preſerve or harden fleſh like that of wood; and the ſoot, into which it condenſes, is more diſpoſed to liquefy in moiſt weather.

(4.) PEAT ASHES, properly burnt for a manure, are noble improvers both of corn and graſs land: but the ſubſtance from which they ſhould be got is an under ſtratum of the peat, where the fibres and roots of the earth, &c. are well decayed. Indeed the very beſt are procured from the loweſt ſtratum of all. This will yield a large quantity of very ſtrong aſhes, in colour (when firſt burnt) like vermilion, and in taſte very ſalt and pungent. Great care and caution ſhould be uſed in burning theſe aſhes, and alſo in preſerving them afterwards. The method of burning them is much the ſame as burning charcoal. The peat muſt be collected into a large heap, and covered ſo as not to flame out, but ſuffered to conſume ſlowly, till the whole ſubſtance is burnt to an aſh. The aſhes thus burnt are held in moſt eſteem; but the peat-aſhes burnt in common firing are in many places uſed for the ſame purpoſes, and ſold at the ſame prices. Peat aſhes are excellent in ſweetening ſour meadow land, deſtroying ruſhes, and other bad kinds of graſs, and in their ſtead producing great quantities of natural graſs. They burn great quantities of peat-aſhes in ſome parts of Berkſhire and Lancaſhire, and eſteem them one of the beſt dreſſings for their ſpring crops. The ſulphureous and ſaline particles with which the aſhes abound have a moſt happy effect in promoting vegetation; and if uſed with diſcretion, the increaſe procured by them is truly wonderful. All aſhes are of a hot, fiery, cauſtic nature: they muſt therefore be uſed with caution. With reſpect to peat-aſhes, almoſt the only danger proceeds from laying them on in too great quantities at improper ſeaſons. Nothing can be better than they are for dreſſing low damp meadows, laying to the quantity of from 15 to 20 Winchester buſhels on an acre: it is beſt to ſow them by hand, as they will then be more regularly ſpread. This ſhould be done in January or February at lateſt, that the aſhes may be waſhed in towards the roots of the graſs by the firſt rains that fall in ſpring. If they were ſpread more forward in the year, and a ſpeedy rain ſhould not ſucceed, being hot in their nature, they would be apt to burn up the graſs, inſtead of doing it any ſervice. The damper and ſtiffer the ſoil, the more

peat-

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peat-ashes should be laid on it; but in grass lands the quantity should never exceed 30 Winchester bushels, and on light warm lands less than half that quantity is fully sufficient. On wheat crops, these ashes are of the greatest service, but they should be laid on with the utmost discretion. Were they to be spread in any quantity before winter, after the sowing the corn, they would make the wheat too rank, and do more harm than good; were the spreading this manure, on the contrary, deferred till spring, the corn could not possibly during the winter season be benefited by it. The beginning of November, before the hard frosts set in, seems to be the proper season for this purpose: and it is necessary to sow on every acre of heavy clayey wheat land, about eight Winchester bushels of these ashes; on lighter warmer lands in wheat, four will be sufficient for this season. The winter dressing is thought by practical farmers to be of great service: trifling as the quantity may seem, it warms the root of the plants, brings it moderately forward, preserves its verdure, and enables it to get into a growing state the first fine weather after Christmas. About the end of February, or the beginning of March, on heavy lands for wheat, another dressing of ashes, by sowing of them on every acre 8 bushels more, will do much good; on light lands, in this 2d dressing, fix bushels may be allowed. These ashes laid on in the spring are of the greatest service, without any probability of danger: if rain falls within a few days after the dressing is laid on, it is washed in, and has a happy effect on the succeeding crop, cooperating with the manure that was laid on in November; if, on the contrary, dry weather for a long continuance succeeds, the first winter dressing has its full effect, and the quantity laid on in the spring is in fact so small, that there is very little probability of its burning or hurting the crop. This excellent manure is also of great use in the turnip husbandry, particularly as it much contributes to preserve the young crop from being devoured by the fly. But one of the principal advantages, derived from these ashes, is the very great service they are of to every kind of artificial pasture. Saintfoin receives great benefit from this manure, and so does clover, rye-grass, and trefoil, provided it is laid on with discretion: the proper season is about February. The quantity must be regulated by the nature of the crop and land; but it ought scarcely in any instance to exceed thirty Winchester bushels. Clover, with the help of this manure, grows with great luxuriancy, insomuch that there have often been two good crops of hay from the same field in a year, and a good autumn feed afterwards. They have a different effect on tares or vetches: to pease they seem to be hurtful. The effects of this manure will be visible at least three years, nor does it leave the land in an impoverished state, when its virtues are exhausted and spent. Peat-ashes are good, however, so certain a manure for barley as for winter corn: for as these are quick growers, and occupy the land but a few months, this manure is often apt to push them forward too fast, and make them run too much to straw, yielding only a lean immature grain. Oats, however, are not so apt to be damaged by it as barley. Peat-ashes approach, in their effects on the several crops on which they are laid, to coal soot; but two 3ds of the quantity that is used of soot will be sufficient of the ashes, as they are in a much stronger degree impregnated with a vegetative power; and they are besides in most places easier procured in quantities, and at a cheaper rate. Peat-ashes are almost a general manure suited to every soil. On cold clay they warm the too compact particles, dispose it to ferment, crumble, and of course fertilize, and, in fine, not only assist it in disclosing and dispensing its great vegetative powers, but also bring to its aid a considerable proportion of ready prepared aliment for plants. On light lands these ashes have a different effect: here the pores are too large to be affected, or farther separated by the salts or sulphur contained in them; but, being closely attached to the surfaces of the large particles of which this earth is generally composed, this manure disposes them, by means of its salts, to attract the moisture contained in the air: by this operation, the plants which grow on these porous soils are prevented from being scorched up and burnt; and if they want more nourishment than the land is capable of affording, this is readily and abundantly supplied by this useful manure. In large farms, it is very usual to see all the home fields rich and well mended by the yard dung, &c. whereas the more distant lands are generally poor, impoverished, and out of heart, for want of proper manure being applied in time. See CHEMISTRY, § 1174.

(5.) PEAT LAW, in geography, a hill of Scotland, in Selkirkshire; 2 miles NW. of Selkirk. It is 1964 feet above the sea level.

PEATHS, PEAS, or PEASE, a vast chasm, or ravine of Scotland, in Berwickshire, in the parish of Cockburnspath, between Berwick and Dunbar, through which the rivulet PEAS, or PEASBURN, runs. An elegant bridge of 4 arches was built over it in 1786, supposed to be the highest in Britain, as it is 200 feet perpendicular above the old road, and 123 feet above the water. It is 300 feet long, and 15 feet wide; and the parapet walls are 6 feet high. *Stat. Acc.* XIII, 230.

PEATRA, a town of European Turkey, in Moldavia; 16 miles SSW. of Niemecz.

PEAUCIER, in anatomy, a name given by Winslow, in his Treatise on the Head, and by some of the French writers, to the muscle called by Albinus *latissimus colli*; and by others *detrahens quadratus*, and *quadratus genæ*. Santorini has called the part of this which arises from the cheek *musculus risorius novus*; and some call the whole *platysma myoides*.

PEAULE, a town of France, in the department of Morbihan; 7 miles S. of Rochefort, and 4½ NW. of Roche Bernard.

(1.) * PEBBLE. PEBBLESTONE. *n. s.* [*pæbolstana*, Saxon.] A stone distinct from flints, being not in layers, but in one homogeneous mass, tho' sometimes of many colours. Popularly a small stone.—The purling noise it made upon the *pebblestones* it ran over. *Sidney.*—

The bishop and the duke of Glo'ster's men,
Have fill'd their pockets full of *pebblestones*.
Shak.

—Suddenly

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—Suddenly a file of boys delivered such a shower of *pebbles* loose shot, that I was fain to draw mine honour in. *Shak.*—You may see *pebbles* gathered together. and a crust of cement between them, as hard as the *pebbles*. *Bacon.*—

As children gath'ring *pebbles* on the shore.
Milton.

Fountains o'er the *pebbles* chid your stay.
Dryden.

—Another body, that hath only the resemblance of an ordinary *pebble*, shall yield a metallic and valuable matter. *Woodw.*

(2.) PEBBLES, in mineralogy, are a genus of fossils, distinguished from the flints and homocroa by their having a variety of colours. These are defined to be stones composed of a crystalline matter debased by earths of various kinds in the same species, and then subject to veins, clouds, and other variegations, usually formed by incrustation round a central nucleus, but sometimes the effect of a simple concretion; and veined like the agates, by the disposition which the motion of the fluid they were formed in gave their differently coloured substances. The variety of pebbles is so great, that an hasty describer would be apt to make almost as many species as he saw specimens. A careful examination will teach us, however, to distinguish them into a certain number of essentially different species, to which all the rest may be referred as accidental varieties. When we find the same colours, or those resulting from a mixture of the same, such as nature frequently makes in a number of stones, we shall easily find that these are all of the same species, though of different appearances; and that whether the matter be disposed in one or two, or 20 crusts, laid regularly round a nucleus; or thrown irregularly, without a nucleus, into irregular lines; or lastly, if blended into an uniform mass. These are the three states in which every pebble is found; for if it has been naturally and regularly formed by incrustation round a certain nucleus, we find that always the same in the same species, and the crusts not less regular and certain. If the whole has been more hastily formed, and the result only of one simple concretion, if that has happened while its different substances were all moist and thin, they have blended together, and made a mixed mass of the joint colour of them all. But if they have been something harder when this has happened, and too far concreted to diffuse wholly among one another, they are found thrown together into irregular veins. These are the natural differences of all the pebbles; and having regard to these in the several variegations, all the known pebbles may be reduced to 34 species. In all the strata of pebbles, there, are constantly found some which are broken, and of which the pieces lie very near one another; but as bodies of such hardness could not be broken without some considerable violence, their present situation seems to indicate that they have suffered that great violence in or near the places where they now lie. Beside these, we often meet with others which have as plainly had pieces broken off from them, though those pieces are nowhere to be found; whence it seems equally plain, that whatever has been the cause of their fracture, they have been brought broken, as we find the from some other place, or else that the pie broken from them must at some time or o have been carried from this place to some o distant one. Several of these broken peb have their edges and corners so sharp and e that it seems evident they never can have b tossed about or removed since the fracture made; and others have their sides and corne rounded, blunted, and worn away, that seem to have been roughly moved and rolle bout among other hard bodies, either with violence, or for a very long continuance; such hard bodies could not have been reduce the condition in which we now see them wit long friction. It may be supposed by s that these stones never were broken, but have naturally formed of this shape; but it will b sily seen, by any one who accurately surveys veins or coats, which surround the nucleus, the annular circles of a tree, that they must been originally entire; and this will be the plain, if they are compared with a stone b by art. Such pebbles as are found in strata the surface of the earth, are much more b than those which lie in deeper strata; and more clear and transparent the sand is whi found among pebbles, the more beautiful the bles are generally observed to be. The n these stones, and their disposition in the earth subjects worthy of investigation. The surfa the earth is composed of vegetable mould, up of different earths mixed with the putri mains of animal and vegetable bodies, and proper texture and compages for conducting moisture to the roots of trees and plants. U this are laid the sands and pebbles which fer a sort of drain to carry off the redundant ture deeper into the earth, where it may be to supply the place of what is constantly rise exhalations; and lest the strata of sand shou too thick, it is common to find thin ones of between, which serve to put a stop to the de of the moisture, and keep it from passing o soon; and lest these thin strata of clay s yield and give way, and by their softness wetted give leave to the particles of sand to themselves with, and even force their way th them, there are found in many places thin of a poor iron ore, placed regularly abov below the clay; and by these means not strengthening and supporting the clay, but tually keeping the sand from making its wa it. Such is the substance of the distinctio rangements, and remarks, of former mineral on this genus of fossils. But in the new and rate system of mineralogy, drawn up by Dr T son, instead of forming a *genus*, consisting species, pebbles only form 2 or 3 varieti ranged under the species *Chalcedony* and See MINERALOGY, *Part* II, *Chap.* IV, *Ord.* I. *Gen.* VI. *Sp.* 7. *var.* 2. and *Sp.* 8. *v*

(3.) PEBBLES, EGYPTIAN. See MINERA *Ibid.*

(4.) PEBBLES, MEDICAL ABUSE OF. are many of opinion, that the swallowing o bles is beneficial to health, in helping the st to digest its food. But the stomach of

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formed ſo, that it can never require thoſe aſſiſtances to the comminution of food. On the contrary, it muſt be hurt by ſuch extraneous and indigeſtible ſubſtances, as pebbles; and there are inſtances on record in which they have undoubtedly done much miſchief.

(2.) PEBBLES, SCOTTISH. See MINERALOGY, as above.

*PEBBLE-CRYSTAL. *n. ſ.* This ſort, called by the lapidaries *pebble-cryſtal*, is in ſhape irregular. *Woodward.*

*PEBBLED. *adj.* [from *pebble.*] Sprinkled or abounding with pebbles.—

This bank fair ſpreading in a *pebbled* ſhore. *Thomſon.*

PEBBLE-STONE. See PEBBLE, § 1.

*PEBBLY. *adj.* [from *pebble.*] Full of pebbles.

The *pebbly* gravel next. *Thomſon.*

PEC, a town of France, in the department of Eure; 5 miles W. of Paris.

PECAQUE, ST, a town of Mexico, in Xaliſco.

PECARY, in zoology. See SUS, N° 4.

*PECCABILITY. *n. ſ.* [from *peccable.*] State of being ſubject to ſin.—The common *peccability* of mankind is urged to induce commiſeration towards the offenders. *Decay of Piety.*

*PECCABLE. *adj.* [from *pecco*, Latin.] Liable to ſin.

*PECCADILLO. *n. ſ.* [Span. *peccadille*, Fr.] A petty fault; a ſlight crime; a venial offence.—Theſe little vices, which we call follies and the diſeaſes of the human underſtanding, or at moſt the peccadilloes of life. *Dryden.*—'Tis low ebb with the accuſers, when ſuch *peccadillos* as theſe are put in to ſwell the charge. *Atterbury.*

PECCAIS, a town of France, in the dep. of Gard, with ſalt-works near it; 3 miles SE. of Aigues Mortes.

*PECCANCY. *n. ſ.* [from *peccant.*] Bad quality.—The diſeaſe took its original merely from the inferiour of the part, and not from the *peccancy* of the humours. *Wiſeman.*

(1.) *PECCANT. *adj.* [*peccant*, Fr. *peccans*, Lat.] 1. Guilty; criminal.—

My judgments, how with mankind I proceed; As how with *peccant* angels late they ſaw. *Milt.*

Such a *peccant* creature ſhould diſapprove and cenſure of every violation of the rules of juſt and right. *South.* 2. Ill diſpoſed; corrupt; bad; offenſive to the body; injurious to health. It is chiefly uſed in medical writers.—

Purge the *peccant* humours that abound. *Dryd.*

Such as have the bile *peccant* or deficient are relieved by bitters. *Arbuth.* 3. Wrong; bad; deficient; unformal.—Nor is the party cited bound to appear, if the citation be *peccant* in form or matter. *Ayliffe.*

(2.) PECCANT, in medicine, an epithet given to the humours of the body, when they offend either in quantity or quality, *i. e.* when they are either redundant, or in too great abundance. Moſt diſeaſes ariſe from peccant humours, which are either to be corrected by alteratives and ſpecifics, or elſe to be evacuated. But this is diſputed by the advocates for the New Syſtem of Medicine.

PECETO, a town of the imperial French reunion, in the dep. of the Po, and late province of Mondovi, in the Piedmonteſe; 3 miles SW. of Chieri.

PECHANTRE, Nicholas, a French poet, the ſon of a ſurgeon at Toulouſe, where he was born in 1638. He wrote poems in Latin and French, for which he was thrice crowned by the Academy *des Jeux Floraux.* He alſo wrote a tragedy entitled *Geta*, which was acted at Paris in 1687, with great applauſe. He died in 1708.

PECHBLENDE, *n. ſ.* the black ore of Uranium. See MINERALOGY, *Part* II, *Chap.* VII, *Claſs* IV, *Order* XIX, *Gen.* I, *Sp.* 1: and *Part* III, *Ch.* IV, § XIX.

PECHEM, in the materia medica, a name given by the modern Greek writers to the root called *behem* by Avicenna and Serapion. Many have been at a loſs to know what this root pechem was; but the virtues aſcribed to it are the ſame with thoſe of the behem of the Arabians; its deſcription is the ſame, and the diviſion of it into white and red is alſo the ſame. The word *pechem* is formed of *behem* by changing the *b* into a *p*, and the aſpirate into χ, or *ch*, which are both common. Myrepſus, who treats of this root, ſays the ſame thing that the Arabian Avicenna ſays of behem, namely, that it was the fragments of a woody root, much corrugated and wrinkled on the ſurface, owing to its being ſo moiſt whilſt freſh, that it always ſhrunk greatly in the drying.

PECHER. See PAKIR.

PECHIA, a town of European Turkey, in Servia, on the Drino, 35 miles NE. of Raguſa, and 112 WSW. of Niſſa.

PECHMEJA, John, a learned French writer, born at Villa Franca. His Eulogy, on the great Colbert, received the approbation of the French Academy in 1773. He died in 1785.

PE-CHOUI, a town of China, in Chen-ſi.

PECHYAGRA, a name given by authors to the gout affecting the elbow.

PECHYS, a name uſed by ſome anatomical writers for the elbow.

PECHYTYRBE, an epithet uſed by ſome medical writers for the ſcurvy.

(1.) PECK, Francis, was born at Stamford, in Lincolnſhire, May 4, 1692, and educated at Cambridge, where he took the degrees of B. and M. A. He was appointed rector of Godeby, near Melton in Leiceſterſhire. He was the author of many works; viz. 1. A poem, entitled *Sighs on the Death of queen Anne;* 1714. 2. "ΤΟ ΤΨΟΣ ΑΡΙΟΝ; or an Exerciſe on the Creation, and an Hymn to the Creator of the World; written in the words of the text, to ſhow the Beauty and the Sublimity of the Holy Scriptures, 1716, 8vo." 3. In 1721, being then curate of King's Clifton in Northamptonſhire, he iſſued propoſals for printing the Hiſtory and Antiquities of his native town, which was publiſhed in 1727, in folio, under the title of "*Academia tertia Anglicana;* or the Antiquarian Annals of Stamford in Lincoln, Rutland, and Northamptonſhires; containing the Hiſtory of the Univerſity, Monaſteries, Gilds, Churches, Chapels, Hoſpitals, and Schools there, &c. inſcribed to John Duke of Rutland. 4. The Hiſtory of the Stamford Bull-running. 5. "Queries concerning the Natural Hiſtory and Antiquities of Leiceſterſhire and Rutland;" in 1729, and 1740; but the work, though his progreſs in it was very conſiderable, never made its appearance. 6. In 1732, he publiſhed

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publiſhed vol. I. of " *Deſiderata Curioſa*; or, a Collection of divers ſcarce and curious Pieces relating chiefly to Matters of Engliſh Hiſtory; conſiſting of choice tracts, memoirs, letters, &c. tranſcribed, many of them, from the originals, and the reſt from divers ancient MS. copies, or the MS. collations of ſundry famous antiquaries," &c. with notes, contents, and a complete index. This vol. was dedicated to Lord William Manners, and was followed, in 1735, by a 2d vol. dedicated to Dr Reynolds Bp. of Lincoln. 7. A complete catalogue of all the diſcourſes written both for and againſt popery in the time of K. James II. containing an account of 457 books and pamphlets: &c. 4to, 1735. 8. Nineteen Letters of the rev. Henry Hammond. D. D. to Mr Peter Stainnough and Dr Nathaniel Angelo, on curious ſubjects, &c. 1739. 9. Memoirs of the Life and Actions of Oliver Cromwell, as delivered in three panegyrics of him written in Latin; ſuppoſed by Mr John Milton; with an Engliſh verſion; illuſtrated with a large hiſtorical preface, and notes: &c. 1740, 4to. 10. New Memoirs of the Life and poetical Works of Mr John Milton; with 1. An examination of Milton's ſtyle; 2. Explanatory and critical notes on Milton and Shakeſpeare. 3. Baptiſtes; a ſacred dramatic poem in defence of liberty, written in Latin by George Buchanan, tranſlated by Mr John Milton, and firſt publiſhed in 1641, by order of the houſe of commons. 4. The Parallel, or Abp. Laud and Card. Wolſey compared, a Viſion by Milton. 5. The Legend of Sir Nicholas Throckmorton, knt. chief butler of England, who died of poiſon, *anno* 1570, an hiſtorical poem, by his nephew Sir Thomas Throckmorton, knt. 6. Herod the great, by the editor. 7. the Reſurrection, a poem in imitation of Milton. 8. a Diſcourſe on the Harmony of the Spheres, by Milton; with prefaces and notes, 1740, 4to. He died Aug. 13th 1743, aged 61.

(2.) * PECK. *n. ſ.* [from *pocca*, or perhaps from *fat*, a veſſel. *Skinner.*] 1. The fourth part of a buſhel.—

Burn our veſſels, like a new
Seal'd *peck* or buſhel, for being true. *Hudibras.*

—To every hill of aſhes, ſome put a *peck* of unſlacked lime. *Mort. Huſb.*—

He drove about his turnips in a cart;
And from the ſame machine ſold *pecks* of peaſe. *King.*

2. Proverbially. [In low language.] A great deal.

Her finger was ſo ſmall, the ring
Would not ſtay on which they did bring;
It was too wide a *peck*. *Suckling.*

* *To* PECK. *v. a.* [*becquer*, Fr. *picken*, Dutch.] 1. To ſtrike with the beak as a bird. 2. To pick up food with the beak.—

She, when he walk'd, went *pecking* by his ſide. *Dryden.*

—Can any thing be more ſurpriſing, than to conſider Cicero obſerving with a religious attention, after what manner the chickens *pecked* the grains of corn thrown to them? *Addiſon.* 3. To ſtrike with any pointed inſtrument.—With a pick-ax of iron about 16 inches long, ſharpened at the one end to *peck*, and flat-headed at the other. *Carew's Survey.* 4. To ſtrike; to make blows.—Two contrary factions, both inveterate enemies of our church, which they are perpetually *pecking* ſtriking at with the ſame malice. *South.*—Ma lie *pecking* at one another, till they are to pieces. *L'Eſtrange.* 5. The following paſſ perhaps more properly written to *pick*, to t

Get up o' th' rail, I'll *peck* you o'er the elſe.

PECKELSHEIM, a town of Germany, derborn; 15 miles SE. of Paderborn.

* PECKER. *n. ſ.* [from *peck.*] 1. On pecks. 2. A kind of bird: as the wood *pe* The titmouſe and the *peckers* hungry brood.

(1.) PECKHAM, a town of Surry, in the of Camberwell; between Camberwell and ford; which has a noted fair on the 21ſt. A

(2.) PECKHAM, EAST, or GREAT; } two

(3.) PECKHAM, WEST, or LITTLE; } of near W. Malling.

* PECKLED. *adj.* [corrupted from *ſp* Spotted; varied with ſpots.—Some are *ſ* ſome greeniſh. *Walt. Angler.*

PECKWELL, Henry, D. D. a divine church of England, born in 1747. He wa lain to the marchioneſs of Lothian, and re Bloxham in Lincolnſhire; but attached him the Calviniſtic or Whitefield's methodiſts, whom he was very popular. He patroniſ Humane Society, and the Society for relief ſons impriſoned for ſmall debts. He ſtudie ſic, and founded a Society for viſiting the their own houſes; but fell a ſacrifice to h lanthropy, by wounding himſelf in the while opening the body of a patient who h of a putrid fever. The part mortified, died Aug. 18, 1787. He printed ſeveral ſe

PECORA, in zoology, the fifth order claſs mammalia, in the Linnean ſyſtem. Se LOGY.

PECQUENCOURT, a town of France, dep. of the North, and ci-devant prov. of H on the Scarpe; 5 miles E. of Douay. Lon E. Lat. 50. 23. N.

(1.) PECQUET, Anthony, a celebrated philoſopher, born in 1704. He was ap grand maſter of the water-works and fo Rouen. His writings on philoſophy, poli morals are numerous. His *Spirit of Law Political Maxims*, and his *Thoughts on* moſt eſteemed. He died in 1762.

(2.) PECQUET, John, a celebrated ph born in Dieppe. He was phyſician in ordi the celebrated Fouquet, whom he entertain experiments in natural philoſophy. He a immortal honour by the diſcovery of a lacte which conveys the chyle to the heart; and from him is called *le Reſervoir de Pecquet* diſcovery was a freſh proof of the truth of culation of the blood; though it was opp many of the learned, particularly the famo lau, who wrote a treatiſe againſt the auth with this title: *Adverſus Pecquetum & Pecq* Pecquet's works are, 1. *Experimenta nova mita*; Paris, 1654. 2. A Diſſertation, *De cis Lacteis*; Amſterdam, 1661. He was a a lively and active genius. He recommen a remedy for all diſeaſes, the uſe of brandy remedy, however, contributed to ſhorten days. He died at Paris, in 1674.

PE

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PECTEN, the SCALLOP; a genus of shell-fish. The characters are these: The animal is a tethys; the shell bivalve and unequal; the hinge toothless, having a small ovated hollow. This shell-fish is one of the spinners, having the power of spinning threads like the muscles: but they are much shorter and coarser than those of that fish; so that they can never be wrought into any kind of work like the finer and finer threads of the pinna marina. The use of the threads which are spun upon the scallop is to fix the creature to any solid body near its shell. All these proceed, as in the muscle, from a common trunk. It is an evident proof, that this fish has a power of fixing itself at pleasure to any solid body by means of these threads, that after storms the scallops are often found tossed upon rocks, where there were none the day before; and yet these are fixed by their threads, as well as those which had remained ever so long in their place. They form their threads in the same manner with a muscle; only their organ for spinning is shorter and has a wider hollow, whence the threads necessarily thicker and shorter. (See MYTILUS, N° 4.) Mr Barbut divides the genus OSTREA into families; which he thus names according to their characters. 1. The winged equilateral ones. 2. The pectens, that have one ear inwardly springing by being ciliated. 3. The pectens that have their valves more gibbous on one side than on the other. 4. The rough ones, commonly called OYSTERS. Of the locomotive powers of the pecten, we have already treated under the article ANIMAL MOTION. See MOTION, § 2.—Species, such as the *sole pecten*, the *ducal mantle*, the *knotted*, and others, seem to be in general inhabitants of the Indian seas; some of them frequent those of Africa and the South Seas. The name *pecten* seems to have been given to these shells, from the longitudinal striæ with which their surface is covered, which resemble somewhat the teeth of a comb; and hence also the Greek name πεκτεν. By the general character of this shell, evidently includes cockles as well as scallops, which are the pectens without ears, and having oval or elated shells. Cockles are called by all men by a name which is only a diminutive of PECTUNCULUS. The having ears indeed the common mark of distinction between the pectens and the cockles, which last usually have none; yet the genera are not distinct, as some have imagined: for there are shells universally allowed to be pectens or scallops, which have no ears; and others as universally allowed to be pectens or cockles which have. Hence then arose the error of Lister, who made them two distinct genera, and gave the ears and the equal convexity of both shells as the great characteristics of the genus; which, though they be good marks to distinguish the species by, are far from being so unalterable as to found different genera upon. Barrelier places the pectens under the genus ostrea; but observes that though the generic character of the two genera in both, the animal inhabiting the one is very different from that of the oyster; for which reason Linnæus has divided the genus into two. The pectines by some are esteemed as good a food as the oyster. They differ very much in a variety of circumstances. The pectens sail on the surface of the water; and besides, if they are attacked by a foe, they let down the membrane which nature has provided them for a sail, and drop to the bottom. "Behold (says Barbut) the splendor of the pectines, which rival the glowing colours of the papilionaceous tribe, as numerous as they are beautiful, flirting from place to place, and may well be called the papiliones of the ocean. What superior qualities does not the pecten enjoy above the OSTREA EDULIS, which, constantly confined to its native bed, seems wholly destined to afford food to other creatures, not having any means of defence, but its shelly castle, which is often attacked and stormed by its numerous enemies? This creature is not only useful to man as a dainty food, but the shell being levigated into a subtle powder, is employed as an absorbent in heart-burns and other like complaints arising from acidities in the first passages; the hollow shells are generally made choice of, as containing more than the thinner flat ones, of the fine white earth, in proportion to the outer rough coat, which last is found to be considerably impregnated with sea-salt." The grand mark of distinction between the pectens and oyster seems to be the locomotive faculty. It was long supposed, that the oyster possessed no power of motion, that it always remained in the place in which nature or accident had placed it, and that its life differed little from that of vegetables. Experience, however, has taught us to reject these premature conclusions. What Abbe Dicquemare has observed with respect to this circumstance, is worth quoting. (See MOTION, § 2.) "Passing one day (says he) along the sea-shore, I observed an oyster lying in a shallow place, and ejecting with considerable force a quantity of water. It immediately occured to me, that, if this happened at a sufficient depth, the resistance of the water would have forced the oyster from its place. To be satisfied of this, I took several middle sized oysters with a light shell, and placed them on a smooth horizontal surface, in a sufficient quantity of pure sea-water. Some hours elapsed, and the night came on before any thing remarkable appeared; but next day I found one of the oysters in a place and situation different from that in which I had left it; and as nothing could have discomposed it, I could not doubt but that it had moved by its own powers. I continued, however, to attend my charge; but, as if they meant to conceal their secret, the oysters always operated in my absence. At last, as I was exploring the coast of Lower Normandy, I perceived in an oyster-bed one of them changing place pretty quickly. On my return, therefore, to Havre, I made new dispositions to discover the means by which the motions of oysters are performed, and I succeeded. This animal ejects the water by that part of the shell which is diametrically opposite to the hinge; it can also throw it out at the sides, at each extremity of the hinge, or even from the whole opening at once. For this purpose, it can vary the action of its internal mechanism; but the soft parts are not the only organs that perform this function; in certain cases the shells assist in forcing out the water. When an oyster thus suddenly, forcibly, and repeatedly, squirts forth a quantity of water, it repulses the

of its enemies that endeavour to insinuate themselves within the shells while they are open: but this is effectual only against its weakest foes; for there are some so formidable by their strength or their address, that a great number of oysters perish in this way. The animal, therefore, endeavours with all its force to repel them; it does more, it retreats backwards, or starts aside in a lateral direction. All of them, however, are not placed in circumstances favourable for these motions. They are often situated in the crevices of rocks, between stones, or among other oysters, some in sand, and some in mud; so that their strength, or powers of motion, are exerted in vain. It is probable, however, that they have the faculty of operating their own relief from these circumstances, and that they may be accidentally assisted by other bodies. It must, however, be acknowledged, that the means of relief cannot be numerous or considerable in such as are attached to other oysters, to a body heavier than themselves, or to a rock; but such situations are the most uncommon in the oyster-beds that I am acquainted with on the French coasts in the Channel. Perhaps, indeed, a very angular or heavy shell may be sufficient to render an oyster immoveable. This is undoubtedly the case with such of them as have been obliged by worms, or other more formidable enemies, so to increase their shells as to make them thick and unwieldy. An oyster that has never been attached, may fix itself by any part of the margin of either of its valves, and that margin will become the middle, or nearly so, if the oyster is young. I have seen them operate upon their shells in so many different ways, and with such admirable contrivance, when those shells have been pierced by their enemies (among whom I must be ranked), that I do not think it at all impossible for them to quit the place to which they are attached. It will easily be imagined how delicate and difficult such observations and experiments must be, considering the sensibility of the animal, the delicacy of its organs, the transparency of the matter that forms the layers of its shells, the opacity of the shells themselves, the vicissitudes of the sea, and the seasons, &c. But it was of use to show, that, contrary to the opinion generally entertained by the learned as well as by fishermen, oysters are endowed with a locomotive faculty, and by what means that faculty is exerted. Those which first showed me these motions, were brought from the coasts of Bretagne, put into a bed at La Hogue, then at Courseulle, whence they were carried to Havre; and as all these transportations were made in a dry carriage, the oysters could not be in perfect vigour. These animals have much more sensation and more industry than is generally attributed to them. Those authors are not so enlightened as they imagine, who represent the oyster as an animal deprived of sensation, as an intermediate being between animals and vegetables, as a plant, and even in some respects as inferior to a plant. It is thus that the oyster has been made a foundation for many an absurd hypothesis with respect to the nature of animals. The oyster is conscious of its existence, and conscious also that something exists exterior to itself. It chooses, it rejects; it varies its operations with judgment, according to circumstances; it defends itself by means adeq and complicated; it repairs its losses; and it be made to change its habits. Oysters newly ken from places which the sea had never left, considerately open their shells, lose the water t contain, and die in a few days: but those have been taken from the same place, and thr into beds or reservoirs from which the sea o sionally retires, where they are incommoded the rays of the sun, or by the cold, or where are exposed to the injuries of man, learn to themselves close when they are abandoned by water, and live a much longer time." See TREA. The most remarkable species is the

PECTEN MAXIMUS, or great scallop, being same with what Barbut calls the *ducal-mantle pe* It has 14 rays, very prominent and broad, striated both above and below. They are ru and imbricated with scales. They grow to a size; and found in beds by themselves: are dr ed up, and barrelled for sale. The ancients that they have a power of removing themse from place to place by vast springs or leaps. fish was used both by the Greeks and Latins food. When dressed with pepper and cumm was taken medicinally. The scallop was monly worn by pilgrims on their hat, or the of their coat, as a mark that they had crosse sea in their way of the Holy Land, or some di object of devotion.

* PECTINAL. *n. s.* [from *pecten*, Lat. a co —Plain and cartilaginous fishes, as *pectinal* such as have their bones made laterally like a c *Brown.*

* PECTINATED. *adj.* [from *pecten.*] S ing from each other like the teeth of a comb. fit cross-legg'd or with our fingers *pectinated*, counted bad. *Brown's Vulgar Errours.*

* PECTINATION. *n. s.* The state of pectinated.—The complication or *pectinati* the fingers was an hieroglyphic of impedi *Brown's Vulgar Errours.*

PECTIS, in botany, a genus of the polyg superflua order, belonging to the syngenesia of plants; and in the natural method rankin the 49th order, *Compositæ.*

(1.) * PECTORAL. *adj.* [from *pectoralis*, Belonging to the breast.—Being troubled w cough, *pectoral* were prescribed. *Wiseman.*

(2.) * PECTORAL. *n. s.* [*pectorale*, Lat. *pe* Fr.] A breast-plate.

(3.) PECTORAL, a sacerdotal vestment, wo the Jewish high-priest. The Jews call it *Hos* the Greeks λογιον, the Latins *rationale* and *pec* and in our version of the Bible it is called *b plate.* It was about a span square. See BRE PLATE, and *Plate* XLVI, *fig.* 8.

(4.) PECTORAL, an epithet for medicines in diseases of the breast and lungs.

PECTORALE, a breastplate of thin bra bout 12 fingers square, worn by the poorer so in the Roman army, who were rated under drachmæ. See LORICA.

PECTORALIS. See ANATOMY, § 207.

PECTUNCULUS, the cockle. See PEC

(1.) * PECULATE. } *n. s.* [*peculatus*, L
(1.) * PECULATION, } *peculat*, Fr.] Rob of the publick; theft of publick money.

(2.) P

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(2.) PECULATION, or PECULATE, in civil law, the crime of embezzling the public money, by a person intrusted with the receipt, management, or custody thereof. This term is also used by civilians for a theft, whether the thing be public, fiscal, sacred, or religious.

* PECULATOR. [*peculator*, Latin.] Robber of the publick.

(1.) * PECULIAR. *adj.* [*peculiaris*, from *peculium*, Lat. *pecule*, Fr.] 1. Appropriate; belonging to any one with exclusion of others.—I agree with Sir William Temple, that the word humour is *peculiar* to our English tongue; but not that the thing itself is *peculiar* to the English, because the same may be found in many Spanish, Italian and French productions. *Swift.* 2. Not common to other things.—The only sacred hymns they are sure of christianity hath *peculiar* unto itself. *Hooker.*—

One *peculiar* nation to select
From all the rest. *Milton.*

Space and duration being ideas that have some very abstruse and *peculiar* in their nature, the comparing them one with another may be of use for their illustration. *Locke.* 3. Particular; single. To join *most* with *peculiar*, though found in *Dryden*, is improper.—

Neither fear, nor will provoke the war;
My fate is Juno's most *peculiar* care. *Dryden.*

(2.) * PECULIAR. *n. s.* 1. The property; the exclusive property.—

By tincture or reflection, they augment
Their small *peculiar*. *Milt. Par. Lost*

Revenge is so absolutely the *peculiar* of Heaven, that no consideration whatever can empower even the best men to assume the execution of it. *South.* Something abscinded from the ordinary jurisdiction.—Certain *peculiars* there are, some appertaining to the dignities of the cathedral church at Exon. *Carew.*—Some *peculiars* exempt from the jurisdiction of the bishops. *Lesley.*

(3.) PECULIAR, in the canon law, (§ 2. *def.* 2.) signifies a particular parish or church that has jurisdiction within itself for granting probates of wills and administrations, exempt from the ordinary or bishop's court. The king's chapel is a royal peculiar, exempt from all spiritual jurisdiction, and reserved to the visitation and immediate government of the king himself. There is likewise the archbishop's peculiar: for it is an ancient privilege of the see of Canterbury, that wherever the manors or advowsons belong to it, they forthwith become exempt from the ordinary, and are called peculiars: there are 57 such peculiars in the see of Canterbury. Besides these, there are many peculiars belonging to deans, chapters, and other boundaries, which are only exempted from the visitation of the archdeacon: these are derived from the bishop, who may visit them, and to whom there lies an appeal.

(4.) PECULIARS, COURT OF, is a branch of, and annexed to, the court of ARCHES. It has a jurisdiction over all those parishes dispersed through the province of Canterbury in the midst of other dioceses, which are exempt from the ordinary's jurisdiction, and subject to the metropolitan only. Ecclesiastical causes, arising within these peculiar or exempt jurisdictions, are originally cognizable by this court: from which an appeal lay formerly to the pope, but now by the stat. 25 H. VIII. c. 19. to the king in chancery.

* PECULIARITY. *n. s.* [from *peculiar*.] Particularity; something found only in one.—If an author possessed any distinguished marks of style or *peculiarity* of thinking, there would remain in his least successful writings some few tokens whereby to discover him. *Swift.*

* PECULIARLY. *adv.* [from *peculiar*.] 1. Particularly; singly.—That is *peculiarly* the effect of the sun's variation. *Woodward.* 2. In a manner not common to others.—Thus Livy boasts this beast *peculiarly* her own. *Drayton.*—When this danger increased, he then thought fit to pray *peculiarly* for him. *Fell.*

(1.) PECULIUM, in law, the stock or estate which a person, in the power of another, whether male or female, either as his or her slave, may acquire by his industry. Roman slaves frequently amassed considerable sums in this way. The word properly signifies the advanced price which a slave could get for his master's cattle, &c. above the price fixed upon them by his master, which was the slave's own property.

(2.) PECULIUM, in the Romish church, denotes the goods which each religious reserves and possesses to himself.

* PECUNIARY. *adj.* [*pecuniarius*, from *pecunia*, Lat. *pecuniaire*, Fr.] 1. Relating to money.—Their impostures delude not only unto *pecuniary* defraudations, but the irreparable deceit of death. *Brown.* 2. Consisting of money.—Pain of infamy is a severer punishment upon ingenuous natures than a *pecuniary* mulct. *Bacon.*—The injured person might take a *pecuniary* mulct by way of atonement. *Broome.*

* PED. *n. s.* [commonly pronounced *pad*.] 1. A small packsaddle. A *ped* is much shorter than a pannel: and is raised before and behind, and serves for small burdens.—

A pannel and wanty, packsaddle and *ped*. *Tusser.* 2. A basket; a hamper.—A hask is a wicker *ped*, wherein they use to carry fish. *Spenser.*

PEDACE, a town of Naples, in Calabria Citra; 5½ miles S. of Cosenza.

* PEDAGOGICAL. *adj.* [from *pedagogue*.] Suiting or belonging to a schoolmaster.

(1.) * PEDAGOGUE. *n. s.* [*pedagogus*, Lat. παιδαγωγος, παις and αγω.] One who teaches boys; a schoolmaster; a pedant.—

Few *pedagogues* but curse the barren chair,
Like him who hang'd himself *Dryden.*

(2.) *A* PEDAGOGUE, or PÆDAGOGUE, is an instructor in grammar and other arts. The word is formed from the Greek παιδων αγωγος, *puerorum auctor*, i. e. *a leader of boys*. M. Fleury observes, that the Greeks gave this name to slaves appointed to attend their children, lead them, and teach them to walk, &c. The Romans gave the same denomination to the slaves who were intrusted with the care and instruction of their children.

* *To* PEDAGOGUE. *v. a.* [παιδαγωγεω, from the noun.] To teach with superciliousness.—

This may confine their younger stiles,
Whom Dryden *pedagogues* at Will's. *Prior.*

* PEDAGOGY. *n. s.* [παιδαγωγια.] Preparatory discipline.—The old sabbath appertained to the *pedagogy* and rudiments of the law. *White.*—

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In time the reaſon of men ripening to ſuch a pitch, as to be above the *pedagogy* of Moſes's rod and the diſcipline of types, God thought fit to diſplay the ſubſtance without the ſhadow. *South.*

(1.) * PEDAL. *n. ſ.* [*pedalis*, Lat.] Belonging to a foot. *Dict.*

(2.) * PEDALS. *n. ſ.* [*pedalis*, Lat. *pedales*, Fr.] The large pipes of an organ: ſo called becauſe played upon and ſtopt with the foot. *Dict.*

(3.) PEDALS are made ſquare, and of wood; they are uſually 13 in number. They are of modern invention, and ſerve to carry the ſounds of an octave deeper than the reſt. See ORGAN.

PEDALIUM, in botany, a genus of the Angioſpermia order, belonging to the Didynamia claſs of plants; and, in the natural method, ranking under the 28th order, *Luridæ*.

* PEDANEOUS. *adj.* [*pedaneus*, Lat.] Going on foot. *Dict.*

(1.) * PEDANT. *n. ſ.* [*pedant*, French.] 1. A ſchoolmaſter.—

A *pedant* that keeps a ſchool i' the 'church. *Shak.*

The boy who ſcarce has paid his entrance down
To his proud *pedant*, or declin'd a noun. *Dryd.*

2. A man vain of low knowledge; a man awkwardly oſtentatious of his literature.—The *pedant* can hear nothing but in favour of the conceits he is amorous of. *Glanville.*—The preface has ſo much of the *pedant*, and ſo little of the converſation of men in it, that I ſhall paſs it over. *Addiſon.*—

In learning let a nymph delight;
The *pedant* gets a miſtreſs by't. *Swift.*
Purſuit of fame with *pedants* fills our ſchools. *Young.*

(2.) PEDANT is alſo uſed for a rough, unpoliſhed man of letters, who makes an impertinent uſe of the ſciences, and abounds in unſeaſonable criticiſms and obſervations. Madam Dacier defines a pedant, a perſon who has more reading than good ſenſe. See PEDANTRY. Pedants are ever armed with quibbles and ſyllogiſms, breathe nothing but diſputation and chicanery, and purſue a propoſition to the laſt limits of logic. Malebranche deſcribes a pedant as a man full of falſe erudition, who makes a parade of his knowledge, and is ever quoting ſome Greek or Latin author, or hunting back to a remote etymology. Lord Cheſterfield juſtly and ſucceſsfully ridiculed this ſpecies of pedantry, but ſet the example which has been ſince very much followed, of what may be ſtiled *modern pedantry*, by conſtantly interlarding his letters and other works, with French, Spaniſh and Italian quotations. St Evremont ſays, that to paint the folly of a pedant, we muſt repreſent him as turning all converſation to ſome one ſcience or ſubject he is beſt acquainted with. There are pedants of all conditions, and all robes. Wicquefort ſays, an ambaſſador, always attentive to formalities and decorums, is nothing elſe but a political pedant.

* PEDANTIC. } *adj.* [*pedante/que*, Fr. from
* PEDANTICAL. } *pedant.*] Awkwardly oſtentatious of learning.—Mr Cheeke had eloquence in the Latin and Greek tongues; but for other ſufficiencies *pedantick* enough. *Hayward.*—When we ſee any thing in an old ſatyriſt that looks forced and *pedantic*, we ought to conſider how it appeared in the time the poet writ. *Addiſon.*—Th obſcurity is brought over them by ignorance an age, made yet more obſcure by their *pedantic* elucidators. *Felton.*—A ſpirit of contradiction is *pedantick* and hateful, that a man ſhould watch gainſt every inſtance of it. *Watts.*—We now b lieve the Copernican ſyſtem; yet we ſhall ſtill u the popular terms of ſun-riſe and ſun-ſet, and n introduce a new *pedantick* deſcription of the from the motion of the earth. *Bentley.*

* PEDANTICALLY. *adv.* [from *pedantic* With awkward oſtentation of literature.—T earl of Roſcommon has excellently rendered too faithfully is, indeed, *pedantically*. *Dryden.*

(1.) * PEDANTRY. *n. ſ.* [*pedanterie*, Frenc Awkward oſtentation of needleſs learning.—" a practice that ſavours much of *pedantry*. *Brow* —Horace has enticed me into this *pedantry* quotation. *Cowel.*—It is in Latin, if I may be lowed the *pedantry* of a quotation, *non perſuadeb etiamſi perſuaſeris*. *Addiſon.*—The young nobil are ſent, for fear of contracting any airs of *ped try* by a college education. *Swift.*

(2.) PEDANTRY, or PEDANTISM, the qual or manner of a pedant. See PEDANT. To ſw up little and low things, to make a vain ſhow ſcience, to heap up Greek and Latin, with judgment, to tear thoſe to pieces who differ fr us about a paſſage in Suetonius or other anci authors, or in the etymology of a word, to up all the world againſt a man for not admir Cicero enough, to be intereſted for the reputat of an ancient as if he were our next of kin, is w we properly call *pedantry*. Nor is that ſpecies *modern* pedantry leſs ridiculous, however co mon, which leads Engliſh authors to make an tentatious diſplay of their proficiency in the mod languages, by introducing French phraſes, quotations from French, Spaniſh or Italian writ and by writing *Jean*, *Louis*, *Carlos*, *Pedro*, inſtead of *John*, *Lewis*, *Charles*, *Peter*, &c. CI-DEVANT, and LOUI. See alſo Dr Johnſo juſt cenſure of ſuch pedantry and affectation, un ENGLISH LANGUAGE, *page* 665, 671, and 67

PEDARIANS, in Roman antiquity. Dr M dleton thus accounts for the origin of the w He ſays, that though the magiſtrates of Rome a right to a place and vote in the ſenate both ring their office and after it, and before they w put upon the roll by the cenſors, yet they not probably a right to ſpeak or debate there any queſtion, at leaſt in the earlier ages of the public. For this ſeems to have been the orig diſtinction between them and the ancient ſenat as it is plainly intimated in the formule of the c ſular edict, ſent abroad to ſummon the ſen which was addreſſed to all ſenators, and to thoſe who had a right to vote in the ſenate. F this diſtinction, thoſe who had only a right to were called in ridicule *pedarian*; becauſe they nified their votes by their feet, not their tong and upon every diviſion of the ſenate went to the ſide of thoſe whoſe opinion they appro It was in alluſion to this old cuſtom, which ſe to have been wholly dropt in the latter age the republic, that the mute part of the ſenate tinued ſtill to be called by the name *pedarians*

Cic

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Cicero informs us, who, in giving an account to Atticus of a certain debate and decree of the senate upon it, says that it was made with the eager and general concurrence of the pedarians, though against the authority of all the consulars.

PEDATURA, in Roman antiquity, a space or proportion of a certain number of feet set out. The word often occurs in writers on military affairs: as in Hyginus de Castrametatione, *meminerunt quæque ad computationem cohortis equitatæ millenæ pedaturam ad* 1360 *dari debere*; which is thus explained: The pedatura, or space allowed for a *cohors equitata* or provincial cohort, consisting of both horse and foot, could not be the same as the pedatura of an uniform body of infantry, of the same number, but must exceed it by 360 feet; for the proportion of the room of one horseman to one foot soldier he assigns as two and a half to one.

* *To* PEDDLE. *v. n.* To be busy about trifles. *Ainsw.* It is commonly written *piddle*: as, what piddling work is here!

(1.) PEDEE, GREAT, a large navigable river of S. Carolina, which rises in N. Carolina, in the Appalachian mountains, where it is called YADKIN, thence it runs E. 50 miles to Mount Ararat, thence S. by E. into S. Carolina, where it is joined by the Waree, the Little Pedee, Lynch's River, Black River, &c. and falls into the Atlantic, 6 miles below George-town.

(2.) PEDEE, LITTLE, a river of S. Carolina, formed of several head waters, that rise in N. Carolina; and after crossing the divisional line, runs due S. till it falls into the Great Pedee, 32 miles above its mouth and 16 miles below Queenborough.

PEDEMONTE, a town of Naples in Lavora; 20 miles NNE. of Capua.

PEDENA, a town and bishop's see of Maritime Austria, in Istria; 25 miles SSE. of Trieste and of Cabo de Istria; and 64 NE. of Rovigno. Lon. 14. 30. E. Lat. 45. 34. N.

PEDERASTS, the same with SODOMITES.

* PEDERERO. *n. f.* [*pedrero*, Spanish, from *piedra*, a stone with which they charged it.] A small cannon managed by a swivel. It is frequently written *paterero*.

PEDERNEE, a town of France, in the dep. of North Coasts; 4½ miles NW. of Guingamp, and 10 SW. of Lannion.

PEDERNEIRA, a sea port town of Portugal, in Estremadura, on the W. coast; containing about 1300 inhabitants; 18 miles SW. of Leyria, and 18 NE. of Peniche. Lon. 9. 40. E. Ferro. Lat. 39. 31. N.

(1.) * PEDESTAL. *n. f.* [*piedestal*, Fr.] The lowest member of a pillar; the base of a statue.—

The poet bawls
And shakes the statues and the *pedestals*. *Dryd.*

The fore part of the *pedestal* was curiously embellished with a triumph. *Addison.*—

So stiff, so mute! some statue would you swear
Stept from it's *pedestal* to take the air. *Pope.*

(2.) PEDESTAL. See ARCHITECTURE, *Index*; and the same article.

* PEDESTRIAN, *adj.* Travelling on foot. See the next article.

* PEDESTRIOUS. *adj.* [*pedestris*, Latin.] Not Winged; going on foot.—Men conceive they never lie down, and enjoy not the position of rest, ordained unto all *pedestrious* animals. *Brown.*

PEDIACI, or PEDIÆANS, in Grecian antiquity. The city of Athens was anciently divided into 3 different parts; one on the descent of an hill; another on the sea-shore; and a third in a plain between the other two. The inhabitants of the middle region were called Πεδιαεις, *Pediæans*, formed from πεδιον, *plain* or *flat*, or as Aristotle will have it, *Pediaci*: those of the hill, *Diacrians*; and those of the shore, *Paralians*. These quarters usually composed so many different factions. Pisistratus made use of the Pediæans against the Diacrians. In the time of Solon, when a form of government was to be chosen, the Diacrians chose it democratic; the Pediæans demanded an aristocracy, and the Paralians a mixed government.

* (1.) PEDICLE. *n. f.* [from *pedis*, Lat. *pedicule*, Fr.] The footstalk, that by which a leaf or fruit is fixed to the tree.—The cause of the holding green, is the close compact substance of their leaves and *pedicles*. *Bacon.*

(2.) PEDICLE. See BOTANY, § 82, 1.

* PEDICULAR. *adj.* [*pedicularis*, Latin, *pediculaire*, Fr.] Having the phthiriasis or lousy distemper. *Ainsworth.*

PEDICULARIS, in botany, *Rattle Coxcomb*, or *Louse-wort*, a genus of the angiospermia order, belonging to the didynamia class of plants; and, in the natural method ranking under 40th order, *Personatæ*.

PEDICULUS, the LOUSE, in entomology, a genus of insects belonging to the order of aptera. It has six feet, two eyes, and a sort of sting in the mouth; the feelers are as long as the thorax; and the belly is depressed and subiobated. It is an oviparous animal. They are not peculiar to man alone, but infest other animals, as quadrupeds and birds, and even fishes and vegetables; but these are of peculiar species on each animal, according to the particular nature of each, some of which are different from those which infest the human body. Nay, even insects are invested with vermin which feed on and torment them. Several kinds of beetles are subject to lice; but particularly that kind called the *lousy beetle*. The lice on this are very numerous, and will not be shook off. The earwig is often infested with lice, just at the setting on of its head: these are white, and shining like mites, but they are much smaller; they are round-backed, flat-bellied, and have long legs, particularly the foremost pair. Snails of all kinds, but especially the large naked sorts, are very subject to lice; which are continually seen running about them, and devouring them. Numbers of little red lice, with a very small head, and in shape resembling a tortoise, are often seen about the legs of spiders, and they never leave the animal while he lives; but if he is killed, they almost instantly forsake him. A species of whitish lice are found on humble-bees; they are also found upon ants; and fishes are not less subject to them than other animals. Kircher tells us, that he found lice also on flies. The louse which infests the human body makes a very curious appearance through a microscope. It has such a transparent

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parent ſhell or ſkin, that we are able to diſcover more of what paſſes within its body than in moſt other living creatures. It has naturally three diviſions, the head, the breaſt, and the tail part. In the head appear two fine black eyes, with a horn that has five joints, and is ſurrounded with hairs ſtanding before each eye; and from the end of the noſe or ſnout there is a pointed projecting part, which ſerves as a ſheath or caſe to a piercer or ſucker, which the creature thruſts into the ſkin to draw out the blood and humours which are its deſtined food; for it has no mouth that opens in the common way. This piercer or ſucker is judged to be 700 times ſmaller than a hair, and is contained in another caſe within the firſt, and can be drawn in or thruſt out at pleaſure. The breaſt is very beautifully marked in the middle; the ſkin is tranſparent, and full of little pits; and from the under part of it proceed ſix legs, each having five joints, and their ſkin all the way reſembling ſhagreen, except at the ends where it is ſmoother. Each leg is terminated by two claws, which are hooked, and are of an unequal length and ſize. Theſe it uſes as we would a thumb and middle finger; and there are hairs between theſe claws as well as all over the legs. On the back part of the tail there may be diſcovered ſome ring-like diviſions, and a ſort of marks which look like the ſtrokes of a rod on the human ſkin; the belly looks like ſhagreen, and towards the lower end it is very clear, and full of pits; at the extremity of the tail there are two ſemicircular parts all covered with hairs, which ſerve to conceal the anus. When the louſe moves its legs, the motion of the muſcles, which all unite in an oblong dark ſpot in the middle of the breaſt, may be diſtinguiſhed perfectly, and ſo may the motion of the muſcles of the head when it moves its horns. We may likewiſe ſee the various ramifications of the veins and arteries, which are white, with the pulſe, regularly beating in the arteries. But the moſt ſurpriſing of all the ſights is the periſtaltic motion of the guts, which is continued all the way from the ſtomach down to the anus. If one of theſe creatures, when hungry, be placed on the back of the hand, it will thruſt its ſucker into the ſkin, and the blood which it ſucks may be ſeen paſſing in a fine ſtream to the fore part of the head; where, falling into a roundiſh cavity, it paſſes again in a fine ſtream to another circular receptacle in the middle of the head; thence it runs through a ſmall veſſel to the breaſt, and then to a gut which reaches to the hinder part of the body, where in a curve it turns again a little upward; in the breaſt and gut the blood is moved without intermiſſion, with a great force; eſpecially in the gut, where it occaſions ſuch a contraction of the gut as is very ſurpriſing. In the upper part of the crooked aſcending gut abovementioned, the propelled blood ſtands ſtill, and ſeems to undergo a ſeparation, ſome of it becoming clear and wateriſh, while other black particles are puſhed forward to the anus. If a louſe is placed on its back, two bloody darkiſh ſpots appear; the larger in the middle of the body, the leſſer towards the tail; the motions of which are followed by the pulſation of the dark bloody ſpot, in or over which the white bladder ſee to lie. This motion of the ſyſtole and diaſt is beſt ſeen when the creature begins to gr weak; and on pricking the white bladder, wh ſeems to be the heart, the creature inſtantly d The lower dark ſpot is ſuppoſed to be the ex ment in the gut. Lice have been ſuppoſed to hermaphrodites: but this is erroneous; for Lieuwenhoeck obſerved, that the males have ſti in their tails, which the females have not. A he ſuppoſes the ſmarting pain which thoſe c tures ſometimes give, to be owing to their ſti ing with theſe ſtings when made uneaſy by p ſure or otherwiſe. He ſays, that he felt littl no pain from their ſuckers, though ſix of th were feeding on his hand at once. To know true hiſtory and manner of breeding of theſe c tures, M. Lieuwenhoeck put two female into a black ſtocking, which he wore night day. He found, on examination, that in ſix d one of them had laid above 50 eggs; and, u diſſecting it, he found as many yet remainin the ovary: whence he concludes, that in 12 d it would have laid 100 eggs. Theſe eggs n rally hatch in ſix days, and would then proba have produced 50 males, and as many fema and theſe females coming to their full growt 18 days, might each of them be ſuppoſed a 12 days more to lay 100 eggs; which eggs, ſix days more, might produce a young brood 5000: ſo that in eight weeks, one louſe may 5000 of its own deſcendents. Signior Rhedi, has more attentively obſerved theſe animals t any other author, has given ſeveral engravings the different ſpecies of lice found on different nals. Men, he obſerves, are ſubject to kinds; the common louſe and the crab-louſe. obſerves alſo, that the ſize of the lice is not a proportioned to that of the animal which t infeſt; ſince the ſtarling has them as large as ſwan. Some kinds of conſtitutions are apt to breed lice than others: and in ſo places of different degrees of heat, they are tain to be deſtroyed upon people who in ot climates are over-run with them. Cleanlin is doubtleſs the grand ſecret by which to k clear from lice, eſpecially when we wear w len cloths: It is alſo neceſſary where ther any danger, to take nouriſhing, ſucculent fo and to uſe wholeſome drink; to rub with ga and muſtard, to take treacle inwardly, alſo ſal and acid food, to bathe, and to foment the b with a decoction of lupines, or of gall nuts; the moſt effectual remedies are ſulphur and bacco, mercurial ointment, black pepper, and negar. Monkeys and ſome Hottentots, we told, eat lice; and are thence denominated PHT ROPHAGES. On the coaſt of the Red Sea i reported, that there is a nation of ſmall ſtat and of a black colour, who uſe locuſts for greateſt part of their food, prepared only w ſalt. On ſuch food theſe men live till 40, then die of a pedicular or louſy diſeaſe. A k of winged lice devour them, their body putre and they die in great torment. It is alſo a that the negroes on the weſt coaſt of Africa t great delight in making their women clear th bod

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bodies of lice, and thoſe latter devour them with greedineſs as faſt as they find them. In ancient medicine lice were eſteemed aperient, febrifuge, and proper for curing a pale complexion. The natural repugnance to thoſe ugly creatures (ſays Lemery) perhaps contributed more to baniſh the fever than the remedy itſelf. In the jaundice five or ſix were ſwallowed in a ſoft egg. In the ſuppreſſion of urine, which happens frequently to children at their birth, a living louſe is introduced into the urethra, which, by the tickling which it occaſions in the canal, forces the ſphincter to relax, and permits the urine to flow. A bug produces the ſame effect. Farriers have alſo a cuſtom (ſays M. Bourgeois) of introducing one or two lice into the urethra of horſes when they are troubled with a retention of urine, a diſeaſe pretty common among them. But, according to the continuation of the Materia Medica, to uſe the ſecular medicine with the greateſt advantage, we would need to be in Africa, where thoſe inſects are carefully ſought after and ſwallowed as delicious morſel. The great diſtinction between thoſe which infeſt mankind is into the head and body louſe. The former is hard and high coloured, and the latter leſs compact and more of a dun colour. If it were poſſible to give a reaſon why ſome families of the ſame ſpecies ſtick to the head and others to the clothes, &c. it would alſo in all probability be poſſible to underſtand the nature of many contagious diſeaſes.

PEDIGREE. *n. ſ.* [*per* and *degré*, *Skinner.*] Deſcent; lineage; account of deſcent.—I am not bound to enquire of men's *pedigree*. *Sidney.*—

You tell a *pedigree*
Of threeſcore and two years. *Shak.*

Alterations of ſirnames, which in former ages have been very common, have obſcured the truth of *pedigrees*. *Camden.*—

To the old heroes hence was giv'n
A *pedigree* which reach'd to heav'n. *Waller.*

The Jews preſerved the *pedigrees* of their ſeveral families, with a more ſcrupulous exactneſs than any other nation. *Atterbury.*

PEDIGREE. See CONSANGUINITY, DESCENT, GENEALOGY, and INHERITANCE, § 3.

PEDILUVIUM, BATHING OF THE FEET. The uſes of warm bathing in general, and of the feet in particular, are ſo little underſtood, that they are often prepoſterouſly uſed, and ſometimes as injudiciouſly abſtained from. Warm baths are of no ſervice where there is an irreſoluble conſtriction, though, by its taking off from a part in general, it may ſeem to give a moment's relief: for does it draw from the diſtant parts, but ſhorts by puſhing againſt matter that will not yield with a ſtronger impetus of circulation to the ſtretched and diſeaſed veſſels can bear: but where there is any ſuſpicion of ſcirrhus, warm bathing of any ſort ſhould never be uſed. On the other hand, where obſtructions are not of long ſtanding, and the impacted matter is not obſtinate, warm baths may be of great uſe to reſolve it quickly. In recent colds, with ſlight rheumatic encumonies, they are frequently an immediate cure. This they effect by increaſing the velocity of the circulation, opening the ſkin, and carrying freely through the lungs that lentor which ſtagnated or moved ſlowly in them. As thus conducing to the reſolution of obſtructions, they may be conſidered as ſhort and ſafe fevers: and in uſing them we imitate nature, which by a fever often carries off an obſtructing cauſe of a chronical ailment. Borelli, Boerhaave and Hoffman, are all of opinion, that the warm pediluvium acts by driving a large quantity of blood into the parts immerſed. But arguments muſt give way to fact: the experiments related in the Medical Eſſays ſeem to prove to a demonſtration, that the warm pediluvium acts, by rarifying the blood. A warm pediluvium, when rightly tempered, may be uſed as a ſafe cordial by which circulation can be roufed, or a gentle fever raiſed; with this advantage over the cordials and ſudorifics, that the effect of them may be taken off at pleaſure.

(1.) * PEDIMENT. *n. ſ.* [*pedis*, Lat.] In architecture, an ornament that crowns the ordonnances, finiſhes the fronts of buildings, and ſerves as a decoration over gates, windows and niches: it is ordinarily of a triangular form, but ſometimes makes the arch of a circle. *Dict.*

(2.) PEDIMENT. See ARCHITECTURE, *Index.*

PEDINAIG-DURGUM, a town of Indoſtan, in Myſore.

PEDIR, a town of Sumatra, on the N. coaſt, belonging to the king of Acheen, 40 miles E. of Acheen. Lon. 96. 36. E. Lat. 5. 22. N.

(1.) * PEDLER. *n. ſ.* [a *petty deuler*; a contraction produced by frequent uſe.] One who travels the country with ſmall commodities.—

All as a poor *pedler* he did wend,
Bearing a truſſe of trifles at his back. *Spenſ.*

—If you did hear the *pedler* at the door, you would never dance again after a tabor and pipe. *Shak.*—

He is wit's *pedler*, and retails his wares
At wakes and waſſai's, meetings, markets, fairs. *Shak.*

Had ſly Uiyſſes at the ſack
Of Troy brought thee his *pedler's* pack. *Cleavel.*

—A narrow education may beget among ſome of the clergy in poſſeſſion ſuch contempt for all innovators, as merchants have for *pedlers*. *Swift.*—

Atlas was ſo exceeding ſtrong,
He bore the ſkies upon his back,
Juſt as a *pedler* does his pack. *Swift.*

(2.) PEDLER, or PEDLAR, a travelling foot-trader. See HAWKER. In Britain (and formerly in France) the pedlars are deſpiſed; but it is otherwiſe in other countries. In Spaniſh America, the buſineſs is ſo profitable, that it is thought by no means diſhonourable; and there are many gentlemen in Old Spain, who, when their circumſtances are declining, ſend their ſons to the Indies to retrieve their fortunes in this way. Almoſt all the commodities of Europe are diſtributed through the ſouthern continent of America by pedlars. They come from Panama to Paita by ſea; and in the road from the port laſt mentioned, they make Peura their firſt voyage to Lima. Some take the road through Caxamalia; others through Truxillo, along the ſhore from Lima. They take their paſſage back to Panama by ſea, and perhaps take with them a little cargo of brandy. At Panama they again ſtock themſelves with European goods, returning by ſea to Paita, where they

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they are put on ſhore; there they hire mules and load them, the Indians going with them in order to lead them back. Their travelling expences are next to nothing; for the Indians are brought under ſuch ſubjection, that they find lodging for them, and provender for their mules, frequently thinking it an honour done them for their gueſts to accept of this for nothing, unleſs the ſtranger now and then, out of generoſity or compaſſion, makes a ſmall recompenſe. In Poland, where there are few or no manufactures, almoſt all the merchandiſe is carried on by pedlars, who are ſaid to be generally Scotſmen, and who, in the reign of Charles II. are ſaid to have amounted to no fewer than 53,000

* PEDLERY. *adj.* [from *pedler.*] Wares ſold by pedlers.—The ſufferings of thoſe of any rank are trifles in compariſon of what all thoſe are who travel with iſh, poultry, *pedlery* ware to ſell. *Swift.*

* PEDLING. *adj.* Petty dealing; ſuch as pedlers have.—This *pedling* profit I may reſign. *Decay of Piety.*

PEDN Boar Point, a cape of Cornwall, on the S. coaſt; 6 miles SE. of Lizard Point. Lon. 5. 8. W. Lat. 50. 6. N.

(1.) * PEDOBAPTISM. *n. ſ.* [παιδος and βαπτισμα.] Infant baptiſm. *Dict.*

(2.) Pedobaptism. See Baptism, § 6, 7, 9, 10.

* PEDOBAPTIST. *n. ſ.* [παιδος and βαπτιστης.] One that holds or practiſes infant baptiſm.

PEDOMETER, or Podometer, [from πους, *pes, foot*, and μετρον, *meaſure*,] a mechanical inſtrument, in form of a watch, conſiſting of various wheels with teeth, catching in one another, all diſpoſed in the ſame plane; which, by means of a chain or ſtring faſtened to a man's foot, or to the wheel of a chariot, advance a notch each ſtep, or each revolution of the wheel; ſo that the number being marked on the edge of each wheel, one may number the paces, or meaſure exactly the diſtance from one place to another. There are ſome of them which mark the time on a dial-plate, and are in every reſpect much like a watch, and are accordingly worn in the pocket like a watch. See Perambulator, and *Plate* 266.

PEDRA, an iſland near the coaſt of Portugal; 4 miles S. of Oporto bay. Lon. 10. 10. E. Ferro. Lat 41. 6. N.

PEDRAZA, a town of Spain, in Old Caſtile, famous for being the birth place of the emperor Trajan, according to Mr Cruttwell; but others ſay he was born in Italica, now Seville. It has an ancient caſtle, in which the dauphin Francis, and Henry, ſons of Francis I. were confined 4 years. It is 21 miles NE. of Segovia.

PEDRED. See Parret.

(1.) PEDRO, Don. See Peter.

(2.) Pedro Bay, a bay on the S. coaſt of Jamaica. Lon. 77. 41. W. Lat. 17. 53. N.

(3.) Pedro Bluff, a cape on the above bay.

(4.) Pedro Munoz, a town of Spain, in New Caſtile; 41 miles S. of Huete.

(5.) Pedro Point, the moſt northern cape of Ceylon, oppoſite Point Calymere on the continent of India. Lon. 80. 27. E. Lat. 9. 52. N.

(6.) Pedro Point, a cape of Jamaica, on th N. coaſt. Lon. 78. 12. W. Lat. 18. 28. N.

(7.) Pedro, Port St, a ſea port town of Br ſil, on the SE. coaſt, at the mouth of the Plata.

(8.) Pedro, St, one of the Marquesas iſland Lon. 138. 51. W. Lat. 9. 58. S.

(9.) Pedro, St, a town of Cuba, 31 miles SW of Bayamo.

(10.) Pedro, St, a town of E. Florida, 44 mil ESE. of St Mark.

(11, 12.) Pedro, St, a town and river of Me co, in Tlaſcala.

(13, 14.) Pedro, St, 2 towns of Peru; 1 Truxillo, near the coaſt of the South Sea; 2. Lambeyque, on the Pacaſmayo, moſtly inhabit by Indians.

(15.) Pedro, St, an iſland of Spain, SE. of diz.

(16.) Pedro, St, de Sul, a town of Portu in Beira: 10½ miles NW. of Viſeu.

(17.) Pedro, St de Taberna, a town Spain, in Arragon; 12 miles N. of Ainſa.

PEDROAOS, a town of Portugal, in Alemte 9 miles SW. of Moura.

PEDROGAON, a town of Portugal, in Eſ madura: 27 miles NE. of Thomar.

PEDROSA, a town of Spain, in Old Caſt 5 miles SE. of Najera.

PEDUNCLE, in botany. See Botany, *In*

(1.) PEEBLES, or Tweeddale, a county Scotland, 25 miles long and 18 broad; boun on the E. by Ettrick Foreſt, S. by Annandale, W Clydeſdale, and N. by Mid Lothian. It is a h country, well watered by the Tweed, the Yarr and a great number of ſmaller ſtreams that f lize the valleys, which produce good crop oats, barley, and wheat. All the rivers abo with trouts and ſalmon. About the middle of county is the mountain of Braidalb, from the of which the ſea may be ſeen on each ſide of iſland. Tweedale abounds with limeſtone freeſtone. The hills are generally as green a downs in Suſſex, and feed innumerable flock black-faced ſheep, that yield great quantitie excellent wool. The country is well ſhaded woods and plantations, abounds with all the ceſſaries of life, and is adorned with many ſeats and populous villages. The earls of M were hereditary ſheriffs of Tweedale. In church-yard of Drumelzier, belonging to an cient branch of the Hay family, the famous lin is ſaid to lie buried. There was an old t tional prophecy, that the two kingdoms ſhou united when the waters of the Tweed and Panſel ſhould meet at his grave. This me happened by an inundation at the acceſſio James VI. to the crown of England.

(2.) Peebles, a pariſh in the above count miles long from N. to S. and 5½ broad fro to W. containing 18,210 acres. The Tweed through it from E. to W. and divides it into ly two equal parts. The ſurface conſiſts o dant hills and excellent paſture; the clim healthy; the ſoil is clay and ſand; and pro excellent crops of barley, oats, peaſe, tu potatoes, &c. The population in 1791 was increaſe 24, ſince 1755: The number of

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was 200; of sheep, 8000; and black cattle, 500. There are relics of a distinct Roman *Castra Stativa* at Lyne, 4 miles W. of the town, 500 feet square, with 2 ditches and 3 ramparts comprehending about 7 acres. Relics of 4 British camps are also extant, 3 miles S. of the Roman, with many others at greater distances, as well as of watch towers, &c.

(2.) PEEBLES, [from the *pebbles* abounding near it,] an ancient royal borough in the centre of the above parish, on the Tweed, over which it has a elegant stone bridge of 5 arches. In ancient times it was often a place of royal residence. K. James I. is said to have written his poem, entitled *Peebles to the Play*, in it; in which he describes the diversions usually held in it at the great annual festival, at Beltein. Peebles consists of a new and old town, and has of late been much improved in buildings, trade and manufactures. It is famous for carpets and serges. It has a weekly market for corn and cattle, and fairs in Jan. March, May, July, Aug. Sept. Oct. Nov. and Dec. It is 20 miles S. of Edinburgh, and 40 WSW. of Berwick. Lon. 3. 0. W. Lat. 55. 38. N.

(3.) PEEBLES, a small river in the above parish, which runs through the N. part of the town into the Tweed, called also *Eddlestone water*.

(1.) PEEK, *n. s.* in the sea-language, a word used in various senses. The anchor is said to be a-peek, when the ship being about to weigh comes over her anchor in such a manner that the cable hangs perpendicularly between the hause and the anchor. *To heave a-peek*, is to bring the peek so that the anchor may hang a-peek. A ship is said *to ride a-peek*, when lying with her main and fore yards hoisted up, one end of her yards is brought down to the shrouds, and the other raised up on end; which is chiefly done when she lies in rivers, lest other ships falling foul of the yards should break them. Riding *a broad peek*, denotes much the same, excepting that the yards are only raised up half the height.

(2.) PEEK is also used for a room in the hold, extending from the bitts forward to the stern: in this room men of war keep their powder, and merchant-men their victuals.

PEEK's KILL, a village of New York, 50 miles N. of New York, where some magazines of the Americans were destroyed by the British troops, in 1777. See AMERICA, § 28.

(1.) PEEL, in geography, a small island, on the W. coast of the isle of Man. It is naturally very strong, but was rendered much more so, by Thomas, Earl of Derby, who encompassed it with a wall, towers, and other fortifications; so that in those days it was impregnable. A small garrison is still kept in it. It has an ancient cathedral, dedicated to St German, the first bishop of Man; besides the bishop's palace, and other relics of antiquity. It has also a fort with several cannons. It is now chiefly used as a prison for all offenders against ecclesiastical laws, and is called *St German's Prison* from the cathedral. Lon. 4. 40. W. Lat. 54 13. N.

(2.) PEEL, a town of the isle of Man, formerly called *Holm-Town*, separated from the above island, by a narrow channel, from 7 to 10 fathoms deep. It is 14 miles W. of Douglas.

(3.) * PEEL. *n. s.* [*pellis*, Lat. *pelure*, French.] The skin or thin rind of any thing.

(4.) * PEEL. *n. s.* [*paelle*, French.] A broad thin board with a long handle, used by bakers to put their bread in and out of the oven.

* *To* PEEL. *v. a.* [*peler*, Fr. from *pellis*, Lat.] 1. To decorticate; to flay.—

The skilful shepherd *peel'd* me certain wands,
And stuck them up before the fulsome ewes.
Shak.

2. [from *piller*, Fr. to rob.] To plunder. According to analogy this should be written *pill*.—

Who once just and temp'rate conquer'd well,
But govern ill the nations under yoke,
Peeling their provinces. *Milton.*

To *peel* the chiefs, the people to devour;
These, traitor, are thy talents. *Dryden.*

PEELE, Francis, a dramatic writer, who flourished in the reign of Q. Elizabeth. He was born in Devonshire; studied at Oxford in 1573; and took his degree of M. A. in 1579. He was a good pastoral poet, and his plays were acted, says Wood, with great applause.

* PEELER. *n. s.* [from *peel.*] 1. One who strips or flays. 2. A robber; a plunderer.—

Yet otes with her sucking a *peeler* is found.
Tusser.

—As 'tis a *peeler* of land, sow it upon lands that are rank. *Mortimer.*

PEEM, a town of Holstein, 9 m. W. of Eutyn.

PEENANG, an island in the E. Indian Ocean, in the Straits of Malacca; 30 miles in circumference. Lon. 98. 40. E. Lat. 5. 32. N.

PEENE, a river of Germany, which separates Sweden from Prussian Pomerania, and falls into the Baltic, a little W. of the Isle of Usedom: in Lon. 31. 25. E. Ferro. Lat. 54. 10. N.

PEENEMUNDE SCHANZ, a town and fort of Saxony, in the isle of Usedom, near the mouth of the Peene. In 1715, it was taken by the Prussians; in 1757 by the Swedes; in 1758 retaken by the Prussians and its harbour destroyed; but soon after retaken by the Swedes. It is 6 miles N. of Wolgast. For Lon. and Lat. *see* PEENE.

* PEEP. *n. s.* 1. First appearance: as, at the *peep* and first break of day. 2. A sly look.—Would not one think, the almanackmaker was crept out of his grave to take t' other *peep* at the stars? *Swift.*

* *To* PEEP. *v. n.* [This word has no etymology, except that of *Skinner*, who derives it from *opheffen*, Dutch, *to lift up*; and of *Casaubon*, who derives it from ὀπτάνομαι, a *spy*; perhaps it may come from *pip*, *pipio*, Latin, *to cry as young birds*: when the chickens first broke the shell and cried, they were said to begin to *pip* or *peep*; and the word that expressed the act of crying, was by mistake applied to the act of appearing that was at the same time: this is offered till something better may be found.] 1. To make the first appearance.

Seeing at last herself from danger rid,
Peeps forth and soon renews her native pride.
Spenser.

The true blood, which *peeps* forth fairly through it,
Do plainly give you out an unstain'd shepherd.
Shak.

From this league
Peep'd harms that menac'd him. *Shak.*

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I can see his pride
Peep through each part of him. *Shak.*
The tim'rous maiden blossoms on each bough
Peept forth their first blushes. *Crashaw.*
She makes th' obedient ghosts *peep* trembling through the ground. *Roscommon.*
Earth, but not at once, her visage rears,
And *peeps* upon the seas. *Dryden.*
Fair as the face of nature did appear,
When flowers first *peep'd*. *Dryden.*
—Printing and letters had just *peeped* abroad in the world. *Atterbury.*—Though but the very white end of the sprout *peep* out in the outward part of the couch, break it open. *Mortimer.*—
Hills *peep* o'er hills, and Alps on Alps arise. *Pope.*
Most souls but *peep* out once an age. *Pope.*
2. To look slily, closely or curiously; to look through any crevice.—
Who is the same, which at my window *peeps*? *Spenser.*
Come thick night!
That my keen knife see not the wound it makes;
Nor heav'n *peep* through the blanket of the dark,
To cry hold. *Shak.*
Some that will evermore *peep* thro' their eyes,
And laugh like parrots at a bag-piper. *Shak.*
—A fool will *peep* in at the door. *Eccluf.* xxi. 23.—
Lattice-windows give the spy
Room but to *peep* with half an eye. *Cleavel.*
All doors are shut, no servant *peeps* abroad. *Dryden.*
The darling flames *peept* in. *Dryden.*
The feather'd people look down to *peep* on me. *Dryden.*
—Those remote and vast bodies were formed not merely to be *peept* at through an optick glass. *Bentley.*—
O my muse, just distance keep;
Thou art a maid, and must not *peep*. *Prior.*
In vain his little children, *peeping* out
Into the mingling storm, demand their sire. *Thomson.*

* PEEPER. *n. f.* Young chickens just breaking the shell.—
Snails the first course, and *peepers* crown the meal. *Bramhall.*

* PEEPHOLE. } *n. f.* [*peep* and *hole*.] Hole
* PEEPINGHOLE. } through which one may look without being discovered.—The fox spied him through a *peepinghole* he had found out. *L'Estrange.*—
By the *peepholes* in his creft,
Is it not virtually confest,
That there his eyes took distant aim? *Prior.*

(1.) PEER, in geography, a ci-devant county of Germany, in the late bishopric of Liege, now annexed to the imperial French republic, and included in the department of the Ourte.

(2.) PEER, a town of the French republic, late capital of the above county, now in the dep. of Ourte, 30 miles N. of Liege, and 30 NE. of Louvain.

(3.) * PEER. *n. f.* [*pair*, French.] 1. Equal; one of the same rank.—
His *peers* upon this evidence
Have found him guilty of high treason. *Shak.*
—Amongst a man's *peers*, a man shall be sure of familiarity. *Bacon.*—
Oh! what is man, great maker of mankind
That thou adorn'st him with so bright a mien
Mak'st him a king, and ev'n an angel's *peer*. *Davies.*
2. One equal in excellence or endowments.—
All these did wise Ulysses lead, in council *peer* to Jove. *Chapman.*
In song he never had his *peer*. *Dryden.*
3. Companion; fellow.—
He all his *peers* in beauty did surpass. *Spenser.*
In the dances, with what spight
Of your *peers* you were beheld,
That at every motion swell'd. *Ben Jonson.*
Who bear the bows were knights in Arthur's reign,
Twelve they, and twelve the *peers* of Charlemagne. *Dryden.*
4. A nobleman as distinct from a commoner; nobility we have five degrees, who are all nevertheless called *peers*, because their essential privileges are the same.—
I see thee compast with thy kingdom's *peers*
That speak my salutation. *Shak.*
King Henry's *peers* and chief nobility
Destroy'd themselves. *Shak.*
Whatever be your birth, you're sure to be
A *peer* of the first magnitude to me. *Dryden.*

(4.) PEER was anciently applied to the vassals or tenants of the same lord, who were called *peers* because they were all equal in condition, obliged to serve and attend him in his court, and peers *in fiefs*, because they all held fiefs of the same lord. The term *peers* is now applied to those who are impannelled in an inquest upon the person, for convicting or acquitting him of any offence laid to his charge: and the reason why a jury is so called, is because by the common law and custom of this kingdom every person is to be tried by his peers or equals; a lord by the lords, and a commoner by commoners. See JURY.

(5.) PEER OF THE REALM, a noble lord who has a seat and vote in the House of LORDS. These lords are called *peers*, because though there is a distinction of degrees in our nobility, yet in public actions they are equal, in their votes in parliament, and in trying any noble man or other person impeached by the commons, &c. See PARLIAMENT, § 6—11.

(6.) PEERS, HOUSE OF, or HOUSE OF LORDS, forms one of the three estates of Parliament. See LORDS, §§ I, II. and PARLIAMENT, § 6—11. In its judicative capacity, the house of peers is the supreme court of the kingdom, having at present no original jurisdiction over causes, but only that of appeals and writs of error; to rectify any injustice or mistake of the law committed by the courts below. To this authority they succeeded on the dissolution of the AULA REGIA. For as the barons of parliament were constituent members of that court, and the rest of its jurisdiction was dealt out to other tribunals, over which the great officers who accompanied those barons respectively delegated to preside, it followed of course the right of receiving appeals, and superintending all other jurisdictions, still remained in the noble assembly, from which every other inferior court was derived. They are therefore in all cases the last resort, from whose judgment no appeal

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appeal is permitted; but every ſubordinate tribunal muſt conform to their determination. See LORDS, NOBILITY, &c.

(7.) PEERS SCOTTISH. See SCOTTISH PEERS.

(8.) PEERS, THE CI-DEVANT FRENCH, were 12 great lords of that kingdom; of whom 6 were dukes and 6 counts; and of theſe 6 were eccleſiaſtics and 6 laymen: thus the Abp. of Rheims, and the Bp. of Laon and Langres, were dukes and peers; and the Bps. of Chalon on the Marn, Noyon, and Beauvais, were counts and peers. The dukes of Burgundy, Normandy, and Aquitaine, were lay peers and dukes; and the counts of Flanders, Champagne, and Toulouſe, lay peers and counts. Theſe peers aſſiſted at the coronation of kings, either in perſon or by their repreſentatives, where each performed the functions attached to his reſpective dignity: but as the ſix lay peerages were all united to the crown, except that of the counts of Flanders, ſix lords of the firſt quality were choſen to repreſent them: but the eccleſiaſtical peers generally aſſiſted in perſon. The title of peer was afterwards beſtowed on every lord whoſe eſtate was erected into a peerage; the number of which, as it depended entirely on the king, was uncertain.

* To PEER. *v. n.* [By contraction from *appear*.]

1. To come juſt in ſight.—

Honour *peereth* in the meaneſt habit. *Shak.*

Yet many of your horſemen *peer*. *Shak.*

Ey'n through the hollow eyes of death

I ſpy life *peering*. *Shak.*

See how his gorget *peers* above his gown.

Ben Jonſon.

2. To look narrowly; to peep.—

Now for a clod-like hare in form they *peer*. *Sid.*

Hell itſelf will paſs away,

And leave her dolorous mantions to the *peering* day. *Milton.*

Paring in maps for ports. *Shak.*

* PEERAGE. *n. ſ.* [*pairie*, Fr. from *peer*.] 1. The dignity of a peer.—

Peerage is a wither'd flower. *Swift.*

2. The body of peers.—The *peerage* and commons are excluded from parliament. *Dryden.*

* PEERDOM. *n. ſ.* [from *peer*.] Peerage. *Dinſ.*

(1.) * PEERESS. *n. ſ.* [female of *peer*.] The lady of a peer; a woman ennobled.—

Peereſs and butler ſhare alike the box. *Pope.*

(2.) A PEERESS may be noble by deſcent, creation, or marriage. If a peereſs, by deſcent or creation, marries a perſon under the degree of nobility, ſhe ſtill continues noble: but if ſhe obtains that dignity only by marriage, ſhe loſes it, and if afterwards marrying a commoner; yet by courteſy ſhe generally retains the title of her noble. A counteſs or baroneſs may not be arreſted for debt or treſpaſs; for though in reſpect of their ſex, they cannot ſit in parliament, they are nevertheleſs peers of the realm, and ſhall be tried by their peers, &c.

* PEERLESS. *adj.* [from *peer*.] Unequalled; having no peer.—

Stand up *peerleſs*. *Shak.*

Her *peerleſs* feature, joined with her birth,

Intitles her fit for none, but for a king. *Shak.*

The moon,

Riding in cloudy majeſty, at length,

Apparent queen, unveil'd her *peerleſs* light.

Milton.

Such muſick worthieſt were to blaze

The *peerleſs* light of her immortal praiſe.

Milton.

With ſuch a *peerleſs* majeſty ſhe ſtands,

As in that day ſhe took the crown. *Dryden.*

* PEERLESSNESS. *n. ſ.* [from *peerleſs*.] Univerſal ſuperiority.

PEER-PUNCHAL, mountains of Aſia, which form the S. boundary of Cachemir.

PEER-WARTH, a town of Germany, in Auſtria, 13 miles S. of Ips.

PEESE. See PEAS, and PEATHS.

* PEEVISH. *adj.* [This word *Junius*, with more reaſon than he commonly diſcovers, ſuppoſes to be formed by corruption from *perverſe*; *Skinner* rather derives it from *beeiſh*, as we ſay *waſpiſh*.] 1. Petulant; waſpiſh; eaſily offended; irritable; iraſcible; ſoon angry; perverſe; moroſe; querulous; full of expreſſions of diſcontent; hard to pleaſe.—

She is *peeviſh*, ſullen, froward. *Shak.*

Being wrong'd as we are by this *peeviſh* town,

Turn thou the mouth of thy artillery,

As we will ours againſt theſe ſaucy walls. *Shak.*

—Neither will it be ſatire or *peeviſh* invective to affirm, that infidelity and vice are not much diminiſhed. *Swift.* 2. Expreſſing diſcontent, or fretfulneſs.—

For what can breed more *peeviſh* incongruities,

Than man to yield to female lamentations?

Sidney.

I will not preſume

To ſend ſuch *peeviſh* tokens to a king. *Shak.*

—Thoſe deſerve to be doubly laughed at, that are *peeviſh* and angry for nothing. *L'Eſtrange.*

* PEEVISHLY. *adv.* [from *peeviſh*.] Angrily; querulouſly; moroſely.—He was ſo *peeviſhly* opinionative and proud, that he would neither aſk nor hear the advice of any. *Hayward.*

* PEEVISHNESS. *n. ſ.* [from *peeviſh*.] Iraſcibility; querulouſneſs; fretfulneſs; perverſeneſs.—Some miſcarriages in government might eſcape through the *peeviſhneſs* of others. *K. Charles.*—It will be an unpardonable, as well as childiſh *peeviſhneſs*, if we undervalue the advantages of our knowledge. *Locke.*—

From paſſion then you may be freed,

When *peeviſhneſs* and ſpleen ſucceed. *Swift.*

(1.) PEFFER, a ſmall river of Scotland, in E. Lothian, which riſes in the pariſh of Athelſtanford, and falls into the Frith of Forth near Aberlady.

(2.) PEFFER-WASSER. See BATH, § III, N° 9.

* PEG. *n. ſ.* [*pegghe*, Teutonick.] 1. A piece of wood driven into a hole, which does the office of an iron nail.—Solid bodies forethew rain; as boxes and *pegs* of wood, when they draw and wind hard. *Bacon.*—The teeth are about 30 in each jaw; all of them claviculares or *peg* teeth. *Grew's Muſæum.*—If he be cholerick, we ſhall treat him like his little friend, and hang him upon a *peg* till he comes to himſelf. *Addiſon.*—The *pegs* and nails in a great building, though they are but little valued in themſelves, are abſolutely neceſſary to keep the whole frame together. *Spectator.*—A finer petti-

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coat can neither make you richer, more virtuous or wife, than if it hung upon a *peg*. *Swift*. 2. The pins of an inſtrument on which the ſtrings are ſtrained.—

You are well tuned now; but I'll let down
The *pegs* that make this muſick. *Shak. Othel.*

3. *To take a* PEG *lower*; to depreſs; to ſink: perhaps from relaxing the cords of muſical inſtruments.—

Remember how in arms and politicks,
We ſtill have worſted all your holy tricks,
Trepann'd your party with intrigue,
And took your grandees down a *peg*. *Hudib.*

4. The nick-name of Margaret.

* *To* PEG. *v. a.* To faſten with a peg.—

I will rend an oak,
And *peg* thee in his knotty entrails. *Shak.*

—Taking the ſhoots of the paſt ſpring, and *pegging* them down in very rich earth, by that time twelvemonth they will be ready to remove. *Evelyn's Kal.*

PEGANUM, in botany, WILD SYRIAN RUE, a genus of the monogynia order, belonging to the dodecandria claſs of plants; and, in the natural method, ranking under the 26th order, *Multiſiliquæ*.

PEGASIDES, a name of the Muſes, from PEGASUS.

(1.) PEGASUS, among the poets, a horſe imagined to have wings, and fabled to have ſprung from the blood of MEDUSA; being that whereon Bellerophon was fabled to be mounted when he engaged the Chimera. See CHIMÆRA, N° 3. He was alſo mounted by PERSEUS when he deſtroyed the ſea-monſter, that was to devour ANDROMEDA. *(Ovid.)* The opening of the fountain Hippocrene on mount Helicon is aſcribed to a blow of Pegaſus's hoof. He was feigned to have flown away to heaven, where he became a conſtellation. Hence

(2.) PEGASUS, in aſtronomy, the name of a conſtellation of the northern hemiſphere, in form of a flying horſe. See ASTRONOMY, § 548.

PEGAU, a town of Upper Saxony, in Leipſic, on the Pleiſter; 10 miles SSW. of Leipſic, and 58 W. of Dreſden.

PEGERSK, a town of Ruſſia, in Pſkov.

(1.) PEGNA, or PEGNA COVA, a town of Portugal, in Beira; 7½ miles NE. of Coimbra.

(2.) PEGNA DA FRANCIA, a town of Spain, in Leon; 24 miles SSE. of C. Rodrigo, and 55 SSW. of Salamanca.

(3.) PEGNA MACOR, a town of Portugal, in Beira; on the borders of Spain; with a caſtle, 3 churches, a convent, an hoſpital, and about 2,360 inhabitants; 10½ miles SW. of Alfayates, 30 NE. of Caſtel Branca, and 40 NW. of Alcantara. Lon. 6. 32. W. Lat. 39. 59. N.

(4.) PEGNA MAYOR, or MAJOR, a town of Spain in Gallicia; 12 miles ESE. of Lugo.

PEGNAFIEL, a town of Spain, in Old Caſtile, at the foot of a mountain; famous for its palace, caſtle, fortifications, and cheeſes; which are reckoned the beſt in Spain. It is ſeated on the Douro, 25 miles SE. of Valladolid. Lon. 4. 0. W. Lat. 41. 41. N.

PEGNAFIRMA, a town of Portugal, on the W. coaſt; at the mouth of the Mongola; 9 miles S. of Peniche.

PEGNAFLOR, 2 towns of Spain; 1. in Aſturia on the W. bank of the Pravia, 7 miles NW. Oviedo: 2. in Cordova, on the Guadalquivir, miles SW. of Cordova.

PEGNARANDA. 2 towns of Spain: 1. in Leo 30 miles SE. of Salamanca: 2. in Old Caſtile, miles W. of Oſma, and 30 SW. of Olmedo. Lon. 8. W. Lat. 40. 59. N.

PEGNITZ, a river of Franconia, which ru into the Rednitz; 4 miles W. of Nuremberg.

PEGNON DE VELEZ, a Spaniſh fortreſs of friſa, on the N. coaſt of Morocco, built in 15 by Peter of Navarre; taken by the Moors in 15 and retaken by the Spaniards in 1664. It is miles E. of Gomera, and 68 W. of Melilla.

PEGNONGMECO, a town of Aſia, in B mah, 66 miles SW. of Ava, and 288 ENE. of racan.

(1.) PEGU, or } a very conſiderable kingd
(1.) PEGUE, } of Aſia, beyond the Gan The country properly ſo called is but about miles long from N. to S. and as much in bre from E. to W. It is ſituated on the E. ſide the bay of Bengal, nearly oppoſite to Arrica, to the NE. of the coaſt of Coromandel. I bounded on the N. by the kingdoms of Arra and Ava; E. by the Upper and Lower Siam by Siam and the ſea; and W. by the ſea and of Arrakan.

(2.) PEGUE, CLIMATE, SOIL, PRODUCE, MINERALS OF. The air of Pegu is very heal and preſently recovers ſick ſtrangers. The alſo is very rich and fertile in corn, rice, fruit, roots; being enriched by the inundations of river Pegu, which are almoſt incredible, exten above 30 leagues beyond its channel. It pr ces alſo good timber of ſeveral kinds. The c try abounds with elephants, buffaloes, goats, h and other animals, particularly game; and de ſo plenty in September and October, that one be bought for three or four pence; they are fleſhy, but have no fat. There is ſtore of poultry; the cocks are vaſtly large, and the very beautiful As for fiſh, there are many and well taſted. In Pegu are found mines only of gold, iron, tin, and lead, or rather a of copper or mixture of copper and lead, bu of rubies, diamonds, and ſapphires. The r are the beſt in the world; but the diamond ſmall, and only found in the craws of poultry pheaſants. Beſides, only one family has th vilege of ſeiling them; and none dare ope ground to dig for them. The rubies are in a mountain in the province of Kablan, pelan, between the city of Pegu and the p Sirian.

(3.) PEGUE, GOVERNMENT OF. In the g ment of this country, deſpotiſm prevails in extent, and deſpotiſm too of the very worſt for the inhabitants are under the abſolute of a ſet of petty tyrants, who are themſelv thing more than ſlaves to the king of Av they have little or no emolument, except they can raiſe by extortion, it is exerciſed moſt unlimited manner. They take cogn of all diſputes between individuals that co their ears, without their caſe being laid them by either of the parties; and on wh

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fore the cauſe is determined, there is a never-failing charge brought in againſt both, for juſtice, as they expreſs it; and this price of juſtice is often three or four times greater than the value of the matter in agitation.

4. PEGUE, HISTORY OF. The kingdom of Pegu is ſaid to have been founded about 1100 years ago. Its firſt king was a ſeaman; concerning whom and his ſucceſſors we know nothing, till the diſcovery of the Eaſt Indies by the Portugueſe in the beginning of the 16th century. In 1518 the throne of Pegu was poſſeſſed by Breſſagukan, with whom Anthony Correa the Portugueſe ambaſſador concluded a peace in 1519. This monarch was poſſeſſed of a very large and rich empire, nine kingdoms being ſubject to him, whoſe revenues amounted to three millions of gold. In 1539 he was murdered. Among other princes who were his tributaries was Para Mandara, king of the Barmas. Theſe people inhabited the high lands called *Pegu-virus*, to the N. of Pegu. Their prince was obliged to furniſh the king of Pegu with 3000 Barmas, to labour in his mines and other public works. As the king uſed often to go and view his works went forward, and in theſe journies took along with him none but his women; the Barmas formed a deſign of robbing the ladies of their jewels; and the next time the king viſited the works, they murdered him, ſtripped the ladies, and fled to their own country. By this enormity all Pegu was thrown into confuſion: but, inſtead of revenging the death of their king, the people diſtracted every where into factions; ſo that Dacha Rupi, the lawful heir to the crown, was unable to maintain his authority. Of theſe commotions, the king of the Barmas taking the advantage, invaded the country with an army of more than a million of foot, and 5000 elephants; beſides a great fleet which he ſent down the river Ava towards Pegu, the capital; while he himſelf marched thither by land. Juſt at this time Ferdinand de Mirales arrived at Pegu from Goa, with a large galleon richly laden on account of the king of Portugal. As ſoon as Dacha Rupi heard of his coming, he ſent to him aſſiſtance againſt the enemy. This he obtained by great preſents and promiſes; and Mirales ſetting out in a galliot, joined the king's fleet. Had the numbers been nearly equal, the great ſkill of Mirales would undoubtedly have gained the victory: But the fleet of the Barmas covered the whole river, while that of Dacha Rupi could ſcarce be obſerved. Mirales did every thing that a man could do, and even held out alone after all his forces had deſerted him; but at laſt, oppreſſed and overwhelmed with numbers, he was killed, with all his men. Thus Para Mandara became maſter of all Pegu; after which he attacked the neighbouring kingdoms. In 1544 he beſieged Martaban, the capital of a kingdom of the ſame name, very great and flouriſhing. The land forces which he brought againſt it conſiſted of 700,000 men, while by ſea he attacked it with a fleet of 300 ſail; 100 of which were large galleys, and in them 2000 Portugueſe commanded by John Cayero, a brave and experienced officer. The ſiege, however, continued 7 months, during which time the Barmas loſt 120,000 men; but at laſt the beſieged finding themſelf ſtraitened for want of proviſions, and unable to withſtand ſo great a power, offered terms of capitulation. The beſiegers would admit of no terms, upon which the diſtreſſed king applied to the Portugueſe, and offered very advantageous terms, which Cayero would have accepted, but his officers would not permit him. The unhappy king of Martavan had now no other reſource but to ſet fire to the city, make a ſally, and die honourably with the few men he had with him: but even here he was diſappointed; for by the deſertion of 4000 of his troops, the enemy were appriſed of his deſign, and prevented it. Thus betrayed, he capitulated with the Barma king for his own life and the lives of his wife and children, with leave to end his days in retirement. All this was readily granted, but without any intention of performance. The city was plundered and burnt, by which above 60,000 perſons periſhed, while as many more were carried into ſlavery: 6,000 cannon were found in the place; 100,000 quintals of pepper, and an equal quantity of other ſpices. The day after this deſtruction, 21 gibbets were erected on an hill adjoining to the city; on which the queen, her children, and ladies, were executed, by hanging them up alive by the feet. The king, with 50 of his chief lords, was caſt into the ſea, with ſtones about their necks. This monſtrous cruelty ſo provoked the tyrant's ſoldiers, that they mutinied, but he found means to pacify them; after which he proceeded to beſiege Prom, the capital of another kingdom. Here he increaſed his army to 900,000 men. The queen, by whom it was governed, offered to ſubmit to be his vaſſal; but nothing would ſatisfy the Barma monarch leſs than her ſurrender at diſcretion, and putting all her treaſure into his hands. This ſhe, who knew his perfidy, refuſed to do; on which the city was fiercely aſſaulted, but greatly to the diſadvantage of the Barmas, who loſt near 100,000 men. At laſt, however, it was betrayed to Mandara, who behaved with his uſual cruelty: 2,000 children were ſlain; the queen was ſtripped naked, publicly whipped, and then tortured, till ſhe died; the young king was tied to her dead body, and both together caſt into a river, as were alſo 300 other people of quality. While the tyrant was employed in fortifying the city, the prince of Ava had ſailed down the river Queytor with 400 rowing veſſels having 30,000 ſoldiers on board; but hearing of the queen's diſaſter, he ſtopped at Meletay, a ſtrong fortreſs about 12 leagues north of Prom, where he waited to be joined by his father, the king of Ava, with 80,000 men. On thisnews Mandara ſent his foſter brother Chaumigrem along the river-ſide with 200,000 men, while he himſelf followed with 100,000 more. The prince in this emergency burnt his barks, forming a vanguard of the mariners, and, putting his ſmall army in the beſt poſition he could, expected the enemy. A moſt deſperate engagement enſued, in which only 800 of the prince's army were left, and 115,000 out of 200,000 Barmas who oppoſed him were killed. The 800 Avans retired into the fort: but Mandara coming up ſoon after, attacked the fortreſs for 7 days, when the 800, finding themſelves unable to hold out, ruſhed out in a dark and rainy night, to ſell their lives at as dear a rate as poſſible. This laſt effort was ſo extremely violent, that

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that they broke through the enemy's troops in several places, and even preſſed ſo hard on the king himſelf that he was forced to jump into the river. However, they were at laſt all cut off, after they had deſtroyed 12,000 of their enemies. Mandara having thus become maſter of the fort, commanded it to be immediately repaired; and ſailed up the river to the port of Ava, about a league from the capital, where he burnt between 1000 and 3000 veſſels, and loſt in the enterpriſe about 8000 men. The city itſelf he did not think proper to inveſt, as it had been newly fortified, was defended by a numerous garriſon, and an army of 80,000 men was advancing to its relief. The king alſo, apprehenſive of Mandara's power, had implored the protection of the emperor of Siam; offering to become his tributary if he would aſſiſt him with his forces in recovering the city of Prom. To this the emperor readily aſſented; on which Mandara ſent ambaſſadors to the ſovereign of a large territory adjacent, requeſting him to divert the emperor from his purpoſe. On the ambaſſadors return, it appeared that the treaty had taken effect; but as the ſeaſon was not yet arrived for invading Ava, Chaumigrem was ſent with 150,000 men to reduce Sebadi, the capital of a ſmall kingdom about 130 leagues NE. of Pegu. He, however, failed in his attempt; and afterwards was ſurpriſed by the enemy and put to flight. In the mean time, the empire of Siam fell into great diſtractions; the king, together with the heir to the crown, were murdered by the queen, who had fallen in love with an officer, whom ſhe married after her huſband's death. However, both of them were ſoon after killed at an entertainment; and the crown was given to a natural brother of the late king, but a coward and a tyrant. On this Mandara collected an army of 800,000 men, with 20,000 elephants. In this army were 1000 Portugueſe, commanded by one James Suarez, who had a penſion of 200,000 ducats a-year from the king of Pegu, with the title of his *brother*, and governor of the kingdom. With this formidable army he ſet out in April, 1548. His firſt atchievement was the taking of a fortreſs on the borders of the enemy's country; before which, being ſeveral times repulſed, and having loſt 3000 of his men, he revenged himſelf by putting all the women to the ſword. He next beſieged the capital; but though the ſiege continued 5 months, the aſſailants were conſtantly repulſed with great loſs. A mount of earth was then raiſed, on which were placed 40 pieces of cannon, ready to batter it anew, when, in October, advice was received of a rebellion having broke out in Pegu. The perſon who headed the rebels was Shoripam Shay, a relation of the former monarch, ſlain 12 years before. He was a religious perſon, and eſteemed a ſaint. As he was a preacher, he made a ſermon, in which he ſet forth the tyranny of the Barmas in ſuch a manner, that he was immediately taken out of the pulpit, and proclaimed king by the people, who, as a token of fove-reignty, gave him the title of *Shemindoo*. His firſt act was to cut in pieces 15,000 Barmas, and ſeize on the treaſure; and in three weeks all the ſtrong holds of Pegu fell into his hands. On this news, Mandara immediately raiſed the ſiege in which he was engaged, and in 17 days got to Martavan. Here he was informed, that Shemind had poſted 500,000 men in different places, to tercept his paſſage; and 50,000 of his beſt tro deſerted. After 14 days ſtay, he departed fr Martavan, and met Shemindoo at the head 600,000 men. A deſperate engagement follow in which Shemindoo was entirely defeated, w the loſs of 300,000 men. Of the Barma tro were ſlain 60,000; among whom were 280 Po gueſe. The morning after this victory, the ty marched to the city; the inhabitants of which rendered, on condition of having their lives effects ſpared. The kingdom being thus a brought under his ſubjection, he proceeded to niſh the principal perſons concerned in the re lion: their heads he cut off, and confiſcated t eſtates, which amounted to no leſs than ten lions of gold. Others ſay, that he put all wit diſtinction to the ſword, excepting 12,000, took ſhelter in Suarez's houſe. The plunder incredible, Suarez alone getting three mill All theſe cruelties, however, did not ſecure th legiance of the tyrant's ſubjects: for in leſs three months the city of Martavan revolted; the governor not only declared for Shemin but murdered 2000 Barmas. Mandara then moned all the lords of the kingdom to meet with their force, within 15 days, at a place c *Mouchau*, near his capital, whither he himſelf with 300 men, to wait their arrival. But i meantime he received intelligence that the ſh or governor of Zatan, a city of ſome conſequ had ſubmitted to Shemindoo, and alſo lent large ſum of gold. The ſhemin was immedi ſent for, but he, ſuſpecting Mandara's deſig guſed himſelf by pretending ſickneſs; after w he drew together about 600 men; and having theſe privately advanced to the place wher king was, he killed him, with his attendants. guards in the court being alarmed with the a ſkirmiſh enſued with the ſhemin's men, in w about 800 were ſlain on both ſides, moſt of Barmas. The ſhemin then retreated to a called *Pontel*; whither the people of the cou hearing of the death of Mandara, who wa verſally hated, reſorted to him. When he h aſſembled about 5000 men, he returned to ſee troops which the late king had with him killed all he found, diſperſed in ſeveral p With the Barmas were ſlain 80 out of 300 gueſe. The remainder ſurrendered, with S their leader; and were ſpared, on condition o remaining in the ſervice of the ſhemin. Th min, now finding his forces daily increaſe, aſſ the title of *king*; and, to render himſelf the popular, gave out that he would totally ext nate the Barmas. But one of thoſe who were Mandara, when he was murdered, eſcaped t neral ſlaughter; and, ſwimming over the informed Chaumigrem of the king's death had with him 180,000 men, all natives of excepting 30,000 Barmas. Pretending that h received orders to put garriſons into ſeveral p Chaumigrem diſpatched all the natives into rent parts; and thus got rid of thoſe whom h moſt cauſe to fear. He then turned back the capital; ſeized the king's treaſure, wi the arms and ammunition: ſet fire to the

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...ace, arſenals, palace, ſome of whoſe apartments were ceiled with gold, and 2000 rowing veſſels which were on the river. Then deſtroying all the artillery, he fled with the 30,000 Barmas to his own country, being purſued in vain by the natives of Pegu. Thus the ſhemin of Zatan was left in quiet poſſeſſion of the kingdom; but, by his repeated acts of tyranny and cruelty, he ſo diſguſted his ſubjects, that many fled to foreign countries, while others went over to Shemindoo. In the ſame time, James Suarez, the Portugueſe, loſt his life by attempting to raviſh a young woman of diſtinction; the ſhemin being unable to protect him, and obliged to give him up to the mob, who killed him to death. The ſhemin himſelf did not long ſurvive him; for, being grown intolerable by his oppreſſions, moſt of his followers abandoned him, and he was beſieged in his capital by Shemindoo with an army of 200,000 men, and ſoon after ſlain in a ſally: ſo that Shemindoo now ſeemed to be fully eſtabliſhed on the throne. But in the mean time Chaumigrem, hearing that Pegu was very ill provided with the means of defence, invaded the kingdom with an army of 300,000 men. Shemindoo met him with three times their number; but his men, being all natives of Pegu, were inferior in ſtrength to the enemy. The conſequence was, that Shemindoo was defeated with great ſlaughter, and Chaumigrem proclaimed king of Pegu. Shortly after, Shemindoo himſelf was taken; and, after being treated with the moſt cruelty, was beheaded. Chaumigrem was a very great conqueror, but not at all inferior in cruelty to his predeceſſors. He reduced the empire of Siam and Arrakan, and died in 1583; being ſucceeded by his ſon *Pranjinoko*, then about 50 years of age. When this prince aſcended the throne, the kingdom of Pegu was in its greateſt height of grandeur; but by his tyranny and obſtinacy he loſt all that his father had gained. He died in 1599, and after his death the kingdom of Pegu became ſubject to Arrakan. For ſome time it has been tributary to the more powerful kingdom of Ava; the ſovereigns of which country have hitherto been extremely cautious of permitting Europeans to obtain any ſettlement among them. From the lateſt accounts, however, we learn that the preſent monarch of Pegue, who is a foreign of Aracan, Ava, Laos, and Siam, has entirely altered the barbarous ſyſtem of his predeceſſors; and has turned his attention to policy and improvement, rather than to conqueſt and extenſion of empire. He deſires to conciliate the Peguers by mildneſs, and has acquired great popularity among them by cauſing their antient capital to be rebuilt. He has alſo abrogated ſeveral cruel ſtatutes againſt them; cauſed juſtice to be adminiſtered impartially, and no diſtinction is made between a Burman and a Peguer, but the latter is ſtill excluded from public offices and power. In a word he has given every encouragement to the deſcendants of the former inhabitants, as well as to new ſettlers, to return and people their deſerted city.

(5.) PEGUE, INHABITANTS, CUSTOMS, MANNERS OF. The inhabitants are of an olive, or a tawny complexion. The women are deſcribed by ſome travellers as having ſhook off all modeſty. The Peguers may be ranked among the moſt ſuperſtitious of all mankind. They maintain and worſhip crocodiles; and will drink nothing but the waters of the ditches where thoſe monſtrous animals harbour, and by whom they are often devoured. They have five principal feſtivals in the year, called *ſapans*, which they celebrate with extraordinary magnificence. In one of them the king and queen make a pilgrimage about 12 leagues from the city, riding on a triumphal car, ſo richly adorned with jewels, that it may be ſaid they carry about with them the value of a kingdom. This prince is extremely rich; and has in the chapel of his palace idols of ineſtimable value, ſome of them being of maſſy gold and ſilver, and adorned with all ſorts of precious ſtones. The talapoins, or prieſts, have no poſſeſſions; but ſuch is the reſpect paid them by the people, that they are never known to want. They preach to them every Monday not to commit murder; to take from no perſon any thing belonging to him; to do no hurt; to give no offence; to avoid impurity and ſuperſtition; but above all, not to worſhip the devil: but theſe diſcourſes have no effect in the laſt reſpect. The people, attached to manicheiſm, believe that all good comes from God; that the devil is the author of all the evil that happens to men; and that therefore they ought to worſhip him, that he may not afflict them. This is a common notion among the Indian idolaters. The inhabitants of Pegu are accuſed by ſome authors of being ſlovenly in their houſes, and naſty in their diet, on account of their ſeaſoning their victuals with ſidol, a compoſition made of ſtinking fiſh, reduced to a conſiſtency like muſtard, ſo nauſeous and offenſive that none but themſelves can endure the ſmell of it. Balbi ſays, he could ſooner bear the ſcent of ſtinking carrion; and yet with this they ſeaſon their rice, and other ſoups, inſtead of oil or butter. As they have no wheat in this country, their bread is rice made into cakes. Their common drink is water, or a liquor diſtilled from cocoa-nut water. They are a ſpirited and warlike people; open, generous, and hoſpitable; and have neither the indolence nor the jealouſy of moſt other eaſtern nations. The men here, as in moſt eaſtern countries, buy their wives, or pay their parents a dowry for them. They offer their daughters to ſtrangers, and hire them out for a time: ſome ſay they hire out their wives in the ſame manner. Theſe marriages for a time are well regulated, and often prove very beneficial to the occaſional huſband. Moſt of the foreigners who trade hither, marry a wife for the time of their ſtay. In caſe of a ſeparation, the father is obliged to take care of the boys, and the mother of the girls. No woman is looked upon the worſe, but rather the better, for having had ſeveral European huſbands: nay we are told, that no perſon of faſhion in Pegu, from the gentleman to the king, will marry a maiden, till ſome perſon has had the firſt night's lodging with her. In Pegu, the inheritance of all land is in the king: he is likewiſe the heir of all his ſubjects who die without iſſue; but in caſe they have children, two thirds go to them, and the reſt to the king.

(6.) PEGUE, RELIGION OF THE PEOPLE OF. The religion of the Peguers is the ſame at bottom

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tom with that which prevails over the reſt of India and Thibet; only varies ſomewhat in different countries, according to the humour or intereſt of the prieſts. They hold the exiſtence of one ſupreme God, of whom they make no image; but they have many inferior created gods, whoſe images are ſet up in the temples for the laity to worſhip. When a perſon falls ſick, we are told that they generally make a vow to the devil, from whom they believe all evil comes. Then a ſcaffold is built, and victuals are ſpread on the top of it to ſolace Old Nick, and render him propitious. This feaſt is accompanied with lighted candles and muſic; and the whole is managed by an undertaker called the *devil's father*.

(7.) PEGUE, REVENUE OF. The king of Pegu's revenues ariſe chiefly from the rent of lands, of which he is the ſole proprietor. Another branch of it are the duties paid for the commodities imported or exported. In a word, he is judged the richeſt monarch in the world, next to the emperor of China.

(8.) PEGUE, TRADE OF. The commodities exported from this country are gold, ſilver, rubies, muſk, benjamin, long-pepper, tin, lead, copper; lacka, or gum-lac, whereof they make hard wax; rice-wine; and ſome ſugar-canes, of which they would have plenty, but that the elephants eat them. Under the name of *rubies*, the Peguers compriſe topazes, ſapphires, amethyſts, and other ſtones; which they diſtinguiſh by ſaying the blue, the violet, and the yellow rubies. The true ruby is red, tranſparent, or ſparkling, inclining near the ſurface to the violet of the amethyſt. Cotton cloths from Bengal and Coromandel, with ſome ſtriped ſilks, are beſt for the Pegu market, and ſilver of any ſort will go off there: for the king, in return for his eight and a half per cent duty on it, allows the merchants to melt it down, and put what copper alloy they pleaſe in it. They wear none of our European commodities in Pegu but hats and ribbons. The gentry will give extravagant prices for fine beaver hats, which they wear without any cocks. They are no leſs fond of ribbons flowered with gold and ſilver, which they wear round their hats.

(II.) PEGUE, the ancient capital of the above empire, was one of the moſt ſplendid, large, and populous cities in all Aſia, before it was deſtroyed by the Barmans or Birmans. (See § 4) It was a quadrangle, each ſide meaſuring 1½ miles, and ſurrounded by a brick wall, and a ditch of 60 yards broad. The wall had baſtions 300 yds. aſunder; was 25 feet high, and 40 broad at the bottom. The king's palace was built of wood, but like a fort, with walls and ditches: and it was not only gilded all over, but its battlements were covered with plates of ſolid gold. This fine city was totally deſtroyed, and every building in it razed in 1757, except the pagodas. The great pagoda of SHOEMADOO has been ſince repaired.

(III.) PEGUE, the preſent capital of Pegue, is built on the ſame plan, and on part of the ſite of the old city. It is a ſquare, but each ſide does not meaſure above half a mile. It is fenced round by a ſtockade 12 feet high. The principal ſtreet runs from E. to W. interſected by two ſmaller ſtreets at right angles. At each end of it is a gate, defended by a piece of ordnance, centinels. The houſes are all made of mats, boa and bamboos; and have earthen pots full of ter on their roofs, to extinguiſh accidental f Building with ſtones or bricks is prohibited, the people ſhould fortify the city and throw the Birman yoke. It has the hills of Martaba the E. with the *Sitang* winding along the pla and has a fine proſpect of nature in her rude pictureſque ſtate for above 40 miles to the N where it is bounded by the *Galadzet* hills. 96. 42. E. Lat. 18. 5. N.

(IV.) PEGUE, a river in the above empire, w riſes in the Galladzet hills; which are chiefl markable for the noiſome effluvia of their at phere. It often overflows its banks. It falls the Ava, near its mouth, in the bay of Beng

PEGUERS, the natives of PEGUE. (See § They are alſo called TALIENS.

(1.) PEGUNNOCK, a river of New Je which riſes in Suſſex county, and runs int PASAICK.

(2.) PEGUNNOCK, a town of New Jerſe Suſſex county, between the Pegunnock, an Rockaway.

PEGUNTIUM, in ancient geography, ac ing to Ptolemy, or PEGUNTIAE, as Pliny h a town or citadel of Dalmatia, on the Ad oppoſite to the iſland Bratia, 5 miles off, a E. of Salonae. According to Fortis, a mount large hollow, and ſubmarine ſprings are ſeen

PE-HING, a town of China, in Chan-to

PEHL, a town of Auſtria, 6 m. W. of W

PE-HO, a town of China, in Chen-ſi.

PEI, 2 towns of China: 1. in Kiang-nan, 3d rank, 40 miles NW. of Peſu: 2. in Se tc of the 2d rank, on the Kincha; 720 miles S Pekin. Lon. 124. 47. E. Ferro. Lat. 29. 50

PEI-CHAN, a town of China, in Se-tch

PEICHELSTEIN, a town of Germany, county of Tyrol; 5 miles SSW. of Reutten

PEILLAC, a town of France, in the d ment of the Morbihan; 6 miles E. of Roch

PEILSTAIN, a town of Germany, in A 4 miles S. of Aigen.

PEINA, a town of Lower Saxony, in Hilde on the Fuſe, with a fort and garriſon. It ſtood a ſiege in 1523. In 1711, it was ta the elector of Brunſwick. It is 15 miles N Hildeſheim, and 21 E. of Hanover.

PEINE, a town of Brunſwick, famous battle fought near it in 1553, wherein Mau lector of Saxony, and the margrave of Br burg, were both killed. It is 17 miles Brunſwick. Lon. 10. 19. E. Lat. 52. 25. N

PEINE FORT ET DURE, (Lat. *pœna fortis et* ſignifies a ſpecial puniſhment inflicted on who, being arraigned of felony, refuſe themſelves on the ordinary trial, but ſtub ſtand mute; it is vulgarly called *preſſing to* See ARRAIGNMENT.

PEIPUS, or TCHUDSKOI, a large lake ſia, between Peterſburg and Riga; about 6 long, and from 8 to 24 broad. It commu with lake Wertzerwe, and, by the Narova, iſſues from it, with the Gulf of Finland. from 44. 48. to 45. 44. E. Ferro. Lat. 58° 10. N.

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PEIRAH, a town of Malacca, on the W. coaſt, 120 miles NW. of Malacca. Lat. 3. 40. N.

PEIRCE, James, an eminent diſſenting miniſter, was born at Wapping, in London, in 1674, and was educated at Utrecht and Leyden; after which he ſpent ſome time at Oxford, for the benefit of the Bodleian library. He then for two years preached the Sunday evening's lecture at the meeting-houſe in Miles-Lane, London, and then retired to Cambridge. In 1713 he was removed to a congregation at Exeter, where he continued till 1717, when he was ejected for refuſing to ſign the calviniſtic articles of faith. Upon this, a new meeting was opened at Exeter, of which Mr Peirce continued miniſter till his death, in 1726. He was a man of the ſtricteſt virtue, exemplary piety, and great learning. He wrote, 1. *Exercitatio philologica de Homœneria Anaxagorea.* 2. Thirteen pieces on the Controverſy between the Church of England and the Diſſenters. 3. Ten pieces on the Controverſy about the Ejectment at Exeter. 4. Six pieces on the Doctrine of the Trinity. 5. A Paraphraſe and Notes on the Epiſtles of St Paul to the Coloſſians, Philippians, and Hebrews. 6. An Eſſay in favour of giving the Euchariſt to Children. 7. Fourteen Sermons.

PEIRESC, Nicolas Claude Fabri, an eminent antiquarian, born in 1580, was deſended from an ancient and noble family, ſeated originally at Piſa in Italy. At ten years of age, he was ſent to Avignon, where he ſpent five years in the Jeſuits college, in the ſtudy of the languages. In 1595, he removed to Aix, and entered upon philoſophy. In 1599 he was ſent to finiſh his courſe under the Jeſuits at Tournon, where he turned his attention to cosmography. Being recalled by his uncle, in 1600 he returned to Aix, and entered there upon the ſtudy of the law; In 1598 he went again to Avignon, to carry on his courſe of law under one Cujas David; who was alſo well ſkilled in antiquities. He returned in 1603, to Aix, at the earneſt requeſt of his uncle, who reſigned to him a parliamentarial dignity, for which the degree of LL. D. was a neceſſary qualification. Peireſc, therefore, took that degree. Jan. 18. 1604. In 1618, he was preſented by Lewis XIII. abbot of Sancta Maria de Lerins. He died the 24th of June 1637, in the 71ſt year. His works are, 1. *Hiſtoria provinciæ Galliæ Narbonenſis*; 2. *Nobilium ejuſdem provinciæ familiarum Origines, et ſeparatim Familiarum*; 3. *Commentarii rerum omnium memoria dignarum ſua ætate geſtarum*; 4. *Liber de ludicris nascentium*; 5. *Mathematica & aſtronomica variaque*; 6. *Obſervationes mathematicæ*; 7. *Epiſtolæ ad Urbanum VIII. cardinales Barberinos*, &c.; 8. *Numismata antiqui Græci et Latini de ponderibus et menſuris*; 9. *Elogia et epitaphia*; 10. *Inſcriptiones variæ et rariores*; 11. *Genealogia domus Auſtriacæ*; 12. *Catalogus librorum bibliothecæ reg*; 13. *Poemata varia*; 14. *Nummi Gallici, Saxonici, Britannici, &c.*; 15. *Linguæ orientales, Hebræa, Samaritana, Chaldaica, Ægyptiaca, et Indices librorum harum linguarum*; 16. *Obſervationes in varios auctores.*

PEISDORF, a town of Bohemia, in Koniginggratz circle, 10 miles NE. of Gitſchin.

PEISHCHAR, *n. ſ.* a word uſed in Bengal for a preſent to a perſon in a public office.

PEISHCUSH, *n. ſ.* another Bengal word, for a preſent; alſo a fine, or a tribute.

PEISHORE, or PISHOUR, a city of Indoſtan, in Cabul, belonging to the K. of Candahar; 50 miles NW. of Attock. Lon. 69. 45. E. Lat. 32. 44. N.

PEISKREITSCHAM, or PYSKOWICE, a town of Sileſia in Oppeln; 30 miles SE. of Oppeln.

PEITZ, a town of Brandenburg near iron mines; 20 miles ESE. of Luben, and 30 SSW. of Franckfort on the Oder.

PEKAN, in zoology. See MUSTELA, N° 3.

PEKIN, or PEKING, the capital of China, where the emperor generally reſides. It is ſituated in a very fertile plain, 20 leagues from the great wall. This name, which ſignifies the *northern court*, is given to it, to diſtinguiſh it from the city NANKING, or the *ſouthern court*. The emperor formerly reſided in the latter, but the Tartars, a reſtleſs and warlike people, obliged this prince to remove his court to the northern provinces, that he might more effectually repel the incurſions of thoſe barbarians, by oppoſing to them a numerous militia which he generally keeps around his perſon. It is an exact ſquare, and divided into two parts; namely, that which contains the emperor's palace, which is in the new city, or, as it is called, the Tartar's city, becauſe it is inhabited by Tartars ever ſince they conquered this empire; the other, called the *Old City*, is inhabited by the Chineſe. The circuit of both theſe together is 52 Chineſe lys, each of which contains 240 geometrical paces; being, without the ſuburbs, full ſix leagues in circumference, according to the moſt accurate meaſurement made by order of the emperor. The population is generally eſtimated at 2,000,000, but others ſtate it at double that number. Groſier tells us, "that the height and enormous thickneſs of the walls of the Tartar city excite admiration; 12 horſemen might eaſily ride abreaſt upon them; they have ſpacious towers raiſed at intervals, a bow-ſhot diſtant from one another, and large enough to contain bodies of reſerve in caſe of neceſſity. The city has 9 gates, which are lofty and well arched. Over them are large pavilion-roofed towers divided into nine ſtories, each having ſeveral apertures or port-holes: the lower ſtory forms a large hall for the uſe of the ſoldiers and officers who quit guard, and thoſe appointed to relieve them. Before each gate a ſpace is left of more than 360 feet: this is a kind of place of arms, incloſed by a ſemicircular wall equal in height and thickneſs to that ſurrounding the city. The great road, which ends here, is commanded by a pavilion-roofed tower like the firſt, in ſuch manner, that, as the cannon of the former can batter the houſes of the city, thoſe of the latter can ſweep the adjacent country. The ſtreets of Pekin are ſtraight, about 120 feet wide, a full league in length, and bordered with ſhops. The governor of Pekin, who is a Mantchew Tartar, is ſtyled *Governor of the Nine Gates*. His juriſdiction extends not only over the ſoldiers, but alſo over the people in every thing that concerns the police. No police can be more active; and it is ſurpriſing to ſee, among an infinite number of Tartars and

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Chineſe mixed together, the greateſt tranquillity prevail. The walls are 50 cubits high. The walls of the emperor's palace, including that and the gardens, are about two miles long. "Although (ſays Groſier) the Chineſe architecture has no reemblance to that of Europe, the imperial palace of Pekin does not fail to ſtrike beholders by its extent, grandeur, and the regular diſpoſition of its apartments, and by the ſingular ſtructure of its pavilion-roofs ornamented at each corner with a carved plat-band, the lower extremity of which is turned upwards. Theſe roofs are covered with varniſhed tiles of ſo beautiful a yellow colour, that, at a diſtance, they make as ſplendid an appearance as if they were gilded. Below the upper roof there is another of equal brilliancy, which hangs ſloping from the wall, ſupported by a great number of beams, daubed over with green varniſh, and interſperſed with gilt figures. This 2d roof, with the projection of the firſt, forms a kind of crown to the whole edifice. The palace is a ſmall diſtance from the S. gate of the Tartars city. The entrance to it is through a ſpacious court, to which there is a deſcent by a marble ſtaircaſe, ornamented with two large copper lions, and a baluſtrade of white marble. This baluſtrade runs in the form of a horſe-ſhoe, along the banks of a rivulet, that winds acroſs the palace with a ſerpentine courſe, the bridges over which are of marble. At the bottom of this firſt court ariſes a façade with three doors: that in the middle is for the emperor only; the mandarins and nobles paſs through thoſe on each ſide. Theſe doors conduct to a 2d court, which is the largeſt of the palace: it is about 300 feet long, and 50 broad. An immenſe gallery runs round it, in which are magazines, containing rich effects, which belong to the emperor as his private property; for the public treaſure is entruſted to a ſovereign tribunal called *Hoepou*. The firſt of theſe magazines is filled with plate and veſſels of different metals; the 2d. contains the fineſt kinds of furs; the 3d. dreſſes lined with ſable, ermine, minever, and foxes ſkins, which the emperor ſometimes gives in preſents to his officers; the 4th is the depoſitory of jewels, pieces of curious marble, and pearls fiſhed up in Tartary; the 5th conſiſting of two ſtories is full of wardrobes and trunks, which contain the ſilk ſtuffs uſed by the emperor and his family; the reſt are filled with bows, arrows, and other pieces of armour taken from the enemy or preſented by different princes. The royal hall, called *Tai-hotien*, or the Hall of the Grand Union, is in this 2d. court. It is built upon a terrace about 18 feet in height, incruſted with white marble, and ornamented with baluſtrades of excellent workmanſhip. Before this hall all the mandarins range themſelves, when they go, on certain days, to renew their homage, and perform thoſe ceremonies that are appointed by the laws of the empire. This hall is almoſt ſquare, and about 130 feet in length. The ceiling is carved, varniſhed green, and loaded with gilt dragons. The pillars which ſupport the roof within are ſix feet in circumference towards the baſe, and are coated with a kind of maſtich varniſhed red; the floor is partly covered with coarſe carpets, after the Turkiſh manner; but the walls have no kind of ornament, neither tapeſtry, luſtres, nor paintings. The throne, which is in the middle of the hall, conſiſts of a pretty high alcove, exceedingly neat. It has no inſcription but the character *ching*, which the authors of this relation have interpreted by the word *holy*; but it has not always this ſignification for it anſwers better ſometimes to the Latin words *eximius*, or the Engliſh words *excellent*, *perfect*, *moſt wiſe*. Upon the platform oppoſite to the hall ſtand large veſſels of bronze, in which incenſe is burnt when any ceremony is performing. There are alſo chandeliers ſhaped like birds and painted different colours, as well as the wax-candles that are lighted up in them. This platform is extended towards the north, and has on it two leſſer halls; one of them is a rotunda that glitters with varniſh, and is lighted by a number of windows. It is here that the emperor changes his dreſs before or after any ceremony. The other is a ſaloon, the door of which opens to the north through this door the emperor muſt paſs, when he goes from his apartment to receive on the throne the homage of the nobility; he is then carried in a chair, by officers dreſſed in long red robes bordered with ſilk, and caps ornamented with plumes of feathers. It would be difficult to give an exact deſcription of the interior apartments which properly form the palace of the emperor and are ſet apart for the uſe of his family. No are permitted to enter them but women and eunuchs." The temples and the towers of the city are ſo numerous, that it is difficult to count them. Proviſions of all kinds are exceedingly plentiful, they being, as well as the merchandize brought from other parts by means of canals cut from the rivers, and always crowded with veſſels of different ſizes, as well as from the adjacent country. An earthquake which happened here in 1731 buried above 100,000 perſons in the ruins of the houſes. The famous Obſervatory which is partly deſcribed in its order, (See OBSERVATORY N° 9.) ſtands in a court of a moderate extent, and is built in the form of a ſquare tower, contiguous to the city wall on the inſide, and raiſed 10 or 12 feet above its bulwark. The aſcent up to the top is by a very narrow ſtaircaſe; and on the platform above were placed all the old inſtruments, which though but few, took up the whole room. Father Verbieſt introduced his new apparatus which he diſpoſed in a more convenient order. Theſe are large, well caſt and embelliſhed; and were the neatneſs of the diviſions anſwerable to the work, and the teleſcopes faſtened to them according to the new method, they would be equal to thoſe of Europe; but the Chineſe artiſts were either too negligent, or incapable of following his directions. The old inſtruments were by order of the emperor Kang-hi, ſet aſide as uſeleſs and laid in the hall near the tower, where they may be ſeen through a croſs barred window covered with ruſt. In this famed obſervatory there are 5 mathematicians employed night and day, each in a proper apartment on the top of the tower, to obſerve all that paſſes over their head; one of them is gazing towards the zenith, and the others towards the four points of the compaſs, that nothing may eſcape their notice. Their obſervations extend not only to the motions of the heav-

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terrenly bodies, but to fires, meteors, winds, rain, thunder, hail, storms, and other phenomena of the atmosphere; and these are carefully entered in their journals, and an account of them is brought every morning to the surveyor of the mathematics, and registered in his office." Lon. 116. E. Lat. 39. 54. N.

PELAGIA, St, a town of Naples, in Otranto; 3 miles NW. of Tarento.

PELAGIANS, a Christian sect who appeared about the 5th, or end of the 4th century. They maintained the following doctrines: 1. That Adam was by nature mortal, and, whether he had sinned or not, would certainly have died. 2. That the consequences of Adam's sin were confined to his own person. 3. That new born infants are in the same situation with Adam before the fall. 4. That the law qualified men for the kingdom of heaven, and was founded upon equal promises with the gospel. 5. That the general resurrection of the dead does not follow in virtue of our Saviour's resurrection. 6. That the grace of God is given according to our merits. 7. That the grace is not granted for the performance of every moral act; the liberty of the will, and information in points of duty, being sufficient, &c. The founder of this sect was

PELAGIUS, a native of Great Britain; but whether of England, Scotland, or Wales, is uncertain. Dr Henry says, he was born in N. 354, Nov. 13th, 354; and that his real name was Morgan, of which Pelagius is a translation. He was educated in the monastery of Banchor, in Flintshire, of which he became a monk, and afterwards abbot. In the early part of his life, he went over to France, and thence to Rome, where he promulgated opinions different from those of the church. His morals being irreproachable, he had many disciples; and the heresy made so rapid a progress, that it became necessary for the pope to exert his power. Pelagius, to avoid the storm, in 409 passed over to Sicily, attended by his friend and pupil Celestius. In 411 they landed in Africa, continued some time at Hippo, and were present at the famous conference between the Catholics and Donatists, held at Carthage in 411. From thence they travelled to Egypt; and from Egypt, in 415, to Palestine, where they were kindly received by John, Bp. of Jerusalem. In the same year Pelagius was cited to appear before a council of 17 bishops, held at Diospolis. They were satisfied with his creed, and absolved him entirely. The African bishops, however, being dissatisfied with their proceedings, appealed to the Roman pontiff: he first approved, and afterwards condemned, the opinions of Pelagius, who, with his pupil Celestius, was publicly excommunicated; and all the bishops who refused to subscribe the condemnation of the Pelagian heresy, were immediately deprived. What became of Pelagius after this period, is unknown; but it is probable that he retired to Banchor, and died abbot of that monastery. He wrote, 1. *Expositionum in Epistolas*, lib. xiv. 2. *Epistola ad Demetriadem de virginitate*. 3. *Explanationis symboli ad Damasum*. 4. *Epistolæ ad viduam duæ*. 5. *De libero arbitrio*. These and many other fragments are scattered among the works of St Jerome. They are also collected by Garnerius, and published in Append. op. Mercatoris, p. 373. *Cave*.

(2.) PELAGIUS I. pope of Rome, was born in Rome, and elected pope in 555. He endeavoured to reform the clergy; and when Rome was besieged by the Goths, obtained many concessions from Totila, in favour of the citizens. He died in 560.

(3.) PELAGIUS II. Pope, succeeded Benedict I. in 578. He laboured much to reconcile the bishops of Istria and Venice to the Roman see, but without success, and he opposed John, Patriarch of Constantinople. He died of the plague in 590.

PELAGNISI, an island in the Grecian Archipelago; 8 miles in circuit. Lon. 41. 58. E. Ferro. Lat. 39. 30. N.

PELAGONIA, a division of Macedonia.

PELAGOSA, an island in the Adriatic, near Dalmatia, which, together with several rocks that appear above water near it, are the remains of an ancient volcano. M. Fortis, (in his *Travels into Dalmatia*,) says, "The lava which forms the substance of this island, is perfectly like the lava of Vesuvius. If a naturalist should land there, and visit on purpose the highest parts of the island, perhaps we might then know whether it has been thrown up by a submarine volcano, as the island near Santerini was in our age; or if we ought to believe it the top of some ancient volcanic mountain, of which the roots and sides have been covered by the waters, which divided Africa from Spain, forming the straits of Gibraltar; an invasion that no one can doubt of who has examined the bottoms and shores of our sea. The Lissan Fishermen say, that Pelagosa is subject to frequent and violent earthquakes; and the aspect of the island proves, at first sight, that it has suffered many revolutions; for it is rugged, ruinous, and subverted." It is 16 miles SW. of Agosta, and 30 from the Diomede isles.

PELAIAH, a Levite, one of the chiefs of those who returned from captivity, and who signed the covenant that Nehemiah renewed with the Lord. *Neh.* viii, 7. x, 10.

PELASGI, } a very ancient people of
PELASGIANS, } Greece, originally of Arcadia, according to Hesiod; so named from PELASGUS, their first king, though others derive the name from Πελαργος, a stork, on account of their wandering manner of life. *(Strabo.)* They first inhabited ARGOLIS, in Peloponnesus, which from them was called PELASGIA. Thence, about A. A. C. 1883, they emigrated into *Æmonia*, and were afterwards dispersed into various parts of Greece; particularly Epirus, Crete, Lemnos, Lesbos, and Argos. Some of them settled in Magna Græcia, in Italy: others occupied a third part of Thessaly, hence called PELASGIOTIS. In short, they spread through so many parts of Greece, that the poets give their name to the Greeks in general, and name the whole country from them. *Homer. Hesiod.*

(1.) PELASGIA, a name given to GREECE, from the PELASGI. (See the last article.)

(2, 3.) PELASGIA, 1. the ancient name of *Lesbos*; so called from the PELASGI. (*Diodorus Siculus, Pliny.*) 2. The ancient name of PELO-

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PONNESUS, from PELASGUS, a native of the country. *Nicolaus Damascenus, Ephorus.*

(4 5.) PELASGIA was also an ancient name of Epirus and Peloponnesus.

PELASGICUM, the north wall of Athens; so called from the builders, the PELASGI. (*Pausanias. Pliny.*) There was an execration pronounced on any that should build houses under this wall; because the Pelasgi, while dwelling there, entered into a conspiracy against the Athenians. *Thucydides.*

PELASGIOTÆ. See PELASGI.

PELASGIOTIS, a third part of Thessaly, situated between Pieria and Macedonia on the N. and W. Thessaliotis on the S. and Magnesia on the E. *Strabo. Pliny.*

PELASGUS, in fabulous history, a son of Jupiter and Niobe, who reigned in Sicyon, and from whom his subjects, the PELASGI, derived their name.

PELATÆ, free-born citizens, among the Athenians, who by poverty were reduced to the necessity of serving for wages. During their servitude, they had no vote in the management of public affairs, as having no estate to qualify them; but this restriction was removed, whenever they had released themselves from their servile situation, which they were allowed to do when able to support themselves. While they continued servants, they had also a right to change their masters. They were called sometimes THETÆ.

(1.) PELATIAH, son of Hananiah, and father of Ishi, of the tribe of Simeon. He subdued the Amalekites upon the mountain of Seir. 1 Chron. iv. 42.

(2.) PELATIAH, the son of Benaiah, a prince of the Jews, who lived in the time of Zedekiah king of Judah, and opposed the wholesome advice given by Jeremiah, to submit to king Nebuchadnezzar. (See Jerem. xxxviii. 15—20. and Ezek. xi. 1—4.) Ezekiel's vision, while he was a captive in Mesopotamia, against Pelatiah, Jaazaniah, and 23 other princes who joined with them, is recorded in Ezek. xi. 5—13. with the immediate death of Pelatiah, while Ezekiel was delivering his prophecy.

PELE, two ancient towns of Thessaly; the one subject to Eurypylus, the other to Achilles; both extinct. PELEUS was the gentilitious name. *Steph.*

PELEE, an island of France, in the dep. of the North; 3 miles NE. of Cherburg.

PELEG, son of Eber, the 5th in descent from Noah; was born in A. M. 1757. He was named *Peleg*, which signifies *division*, because in his time the earth began to be *divided* (Gen. x. 25. xi. 16.) Whether Noah had begun to divide the earth among his descendants, some years before the building of Babel; or Peleg came into the world the same year that Babel was begun, and at the confusion of languages; or whether Eber, by a spirit of prophecy, gave his son the name of *Peleg* before the tower of Babel was begun, is not certain. That which here perplexes the interpreters is, first, that Peleg came into the world not above 100 years after the deluge. But it should seem, that the number of men was not then sufficient for such an undertaking as that of Babel. 2d. Joktan, the brother of Peleg, had ready 13 sons at the time of this dispersion, wh happened after the confusion of Babel (Gen 26—29.) Peleg being born in the 34th year Eber (Gen. xi. 16.), it is impossible that Jok should have had such a number of children at birth of Peleg. It seems therefore probable, t he was not born at the time of the dispersion. this may be answered, that Moses has there e merated the names of the 13 sons of Joktan way of anticipation, though they were not b till a good while after the confusion at Ba but as they possessed a very large country, it proper to take notice of them, among the o descendants of Noah, who divided the provi of the east among themselves. However this have been, at the age of 30, Peleg begat Reu; he died at the age of 239.

PELEGRINO, a promontory on the N. of Sicily; 2 miles W. of Palermo; famous its cavern, church, and relics of St Rosolia, died in it.

PELENGON, or *Gelengon*, a town of P in Larissæa; 66 miles NE. of Sar.

PELETHITES, and CHERETHITES, me mous in the reign of K. David. They were most valiant men in the army of that prince, had the guard of his person. See 2 Sam. x xx. 7. *Patrick's Comm. Pool's Annot.* and *Hist. of David.*

PELETHRONII, a name given to the I THÆ, either from their town of PELETHRO or from their leader PELETHRONIUS. To mankind are indebted for the invention of t with which they tamed their horses.

PELETHRONIUM, a town of Thessaly, flowery part of mount PELION; so named *Pelion* and *θρόνα*, *flowers*. (*Nicander.*) I says the Centaurs were natives of that plac whom Virgil assigns mount Othrys. See TAURS, § 3. LAPITHÆ, and LAPITHUS.

PELETHRONIUS, a leader of the Lapi

PELEUS, in fabulous history, a king of T ly, son of Æacus and Endeis, the daugh Chiron. He was the only mortal man who married an immortal. He was concerned murder of his brother Phocus, and was the obliged to leave his father's dominions. H to the court of Eurytus the son of Actor reigned at Phthia; or, according to Ov Ceyx king of Trachinia. He was purified murder by Eurytus, who gave him his da Antigone in marriage. As Peleus and E went to the chace of the Calydonian boa father-in-law was accidentally killed by an which his son-in-law had aimed at the beast obliged him to banish himself from Phth he went to Iolchos, where he was purified homicide by Acastus the king of the co His residence at Iolchos was short: Asty the wife of Acastus, fell in love with him when she found him insensible to her passio accused him of attempts upon her virtue. king partly believed the accusation; but no ing to violate the laws of hospitality, by p him to death, he ordered his officers condu to mount Pelion, and there tie him to a tr leave him to the wild beasts. The orders

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ratus were obeyed; but Jupiter knowing the innocence of his grandſon Peleus, ordered Vulcan to ſet him at liberty. Peleus then aſſembled his friends to puniſh Acaſtus. He took Iolchos, drove the king from his poſſeſſions, and put to death the wicked Aſtydamia. On the death of Antigone, Peleus made love to THETIS, but the goddeſs fled from him; and the more effectually to elude his purſuit, ſhe aſſumed the ſhape of a bird, a tree, or a tygreſs. Peleus offered a ſacrifice to the gods; and Proteus informed him, that to obtain Thetis, he muſt ſurpriſe her while ſhe was aſleep in her grotto, near the ſhores of Theſſaly. This advice was followed, and Thetis, unable to eſcape, at laſt conſented to marry him. Their nuptials were celebrated with extraordinary ſolemnity, all the gods attending and making them valuable preſents. ATE, the goddeſs of Diſcord, was the only one who was not invited, and ſhe puniſhed this neglect by throwing an apple into the midſt of the aſſembly, with this inſcription, *Detur pulchriori*. (See PARIS, N° 1.) The celebrated Achilles was the fruit of this marriage, whoſe education was early entruſted to his great-grandfather Chiron, and afterwards to Phœnix, the ſon of Amyntor. (See ACHILLES.) His death was the ſource of great grief to Peleus; but Thetis, to comfort her huſband, promiſed him immortality, and ordered him to retire into the grottos of the iſland of Leuce, where he ſhould ſee and converſe with the manes of his ſon. Peleus had a daughter called *Polydora*, by Antigone.

PELEW ISLANDS, a cluſter of ſmall iſlands, ſituated between lat. 5° and 9° N. and lon. 133° and 136° E. The natives are all of a deep copper colour, going perfectly naked. They are of a middling ſtature, very ſtraight, muſcular, and well formed; but their legs, from a little above their ancles to the middle of their thighs are tattooed ſo very black, as to appear dyed of a far deeper colour than the reſt of their ſkin. Their hair is of a fine black, long, and rolled up behind, in a ſimple manner, cloſe to the back of their heads, which appear both neat and becoming; but few of them have beards, it being the general cuſtom to pluck them out by the roots. The iſland Coorooraa, of which Aroo is the capital, produces plantains, bananas, Seville oranges and lemons, but neither of them in any conſiderable quantity. None of the iſlands which the Engliſh viſited had any kind of grain. As to birds, they had plenty of common cocks and hens, which, though not domeſticated, yet running about near their houſes and plantations; and what appears extremely ſingular is, that the natives had never made any uſe of them, till our people told them they were excellent eating. Pigeons they account a great dainty; but have but thoſe of a certain dignity were permitted to eat of them. The country is very mountainous; but the valleys are extenſive and beautiful, affording many delightful proſpects. The houſes are raiſed about 3 feet from the ground, upon ſtones which appear as if hewn from the quarry. The interior part of them is without any diviſion, the whole forming one great room, which riſe in a ridge like our barns, the outſide being thatched thick and cloſe with bamboos or palm leaves. All their implements, utenſils, weapons of war, and canoes, are much of the ſame kind with thoſe in the South Sea iſlands. In their marriages they allow a plurality of wives, though in general not more than two.

* PELF. *n. ſ.* [In low Latin, *pelfra*, not known whence derived; *peuffe*, in Norman, is *frippery*.] Money; riches.—

The thought of this doth paſs all worldly *pelf*. *Sidney.*

I read thee, raſh and heedleſs of thyſelf,
To trouble my ſtill ſeat and heaps of precious *pelf*. *Spenſer.*

Not provident of *pelf* as many iſlands are. *Drayton.*

Immortal gods, I crave no *pelf*;
I pray for no man but myſelf. *Shak.*

He call'd his money in;
But the prevailing love of *pelf*
Soon ſplit him on the former ſhelf:
He put it out again. *Dryden's Horace.*

To the poor if he refus'd his *pelf*,
He us'd them full as kindly as himſelf. *Swift.*

(1.) PELHAM, a townſhip of Maſſachuſetts, in Hampſhire county, 85 miles W. of Boſton. It had 1040 citizens in 1795.

(2.) PELHAM, a townſhip of New Hampſhire, in Rockingham county, on the S. ſtate line, on the banks of Beaver river, 36 miles N. of Boſton. It had 791 citizens in 1795.

(3.) PELHAM, a townſhip of New York, in W. Cheſter county; containing 199 citizens, and 29 electors in 1795.

PELIADES, the daughters of PELIAS were Alceſte, Piſidice, Pelopea, and Hippothoe, to whom Hyginus adds Meduſa. Their mother's name was Anaxibia, the daughter of Bias and Philomache, the daughter of Amphion. After their parricide, (See PELIAS.) the Peliades fled to the court of Admetus, where Acaſtus, the ſon-in-law of Pelias, purſued them, and took their protector priſoner. The Peliades died, and were buried in Arcadia.

PELIAS, in fabulous hiſtory, the twin-brother of NELEUS, was ſon of Neptune by Tyro, daughter of Salmoneus. Their birth was concealed by their mother, who wiſhed their father to be ignorant of her incontinence. They were expoſed in the woods, but were preſerved by ſhepherds; and Pelias received his name from a ſpot of the colour of *lead* in his face. Some time after Tyro married Cretheus, ſon of Æolus, king of Iolchos, and became mother of three children, of whom Æſon was the eldeſt. Pelias viſited his mother, and was received in her family: and after the death of Cretheus, he unjuſtly ſeized the kingdom, which belonged to the children of Tyro by Cretheus. To ſtrengthen himſelf in his uſurpation, Pelias conſulted the oracle; and when he was told to beware of one of the deſcendants of Æolus, who ſhould come to his court with one foot ſhod and the other bare, he privately removed the ſon of Æſon, and declared that he was dead. Theſe precautions proved vain. JASON, the ſon of Æſon, who had been educated by Chiron, returned to Iolchos, when come to years of maturity; and having loſt one of his ſhoes in croſſing the Anaurus or the Evenus, Pelias perceived that this was the perſon whom he had ſo much dreaded. He

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was unwilling to act with violence to a ſtranger, who had excited the admiration of the people. But when Jaſon arrived at his place with his friends, and boldly demanded the kingdom, Pelias ſaid, that he would voluntarily reſign the crown to him, if he would go to Colchis to avenge the death of Phryxus, the ſon of Athamas, whom Æetes had cruelly murdered; adding, that the expedition would be attended with the greateſt glory, and that nothing but the infirmities of age had prevented himſelf from puniſhing the aſſaſſin. This patriotic propoſal was accepted by the young hero, and his intended expedition was made known all over Greece. (See ARGONAUTS, JASON and MEDEA.) According to Ovid, Æſon was ſtill living when the Argonauts returned, and was reſtored to youth by the magic of Medea. This change in the vigour and the conſtitution of Æſon aſtoniſhed all the inhabitants of Iolchos; and the daughters of Pelias, expreſſed their deſire to ſee their fathers infirmities vaniſh by the ſame powerful magic. Medea, who wiſhed to avenge the injuries which her huſband Jaſon had received from Pelias, raiſed the deſires of the Peliades, by cutting an old ram to pieces, and boiling the fleſh in a cauldron, and then turning it into a fine young lamb. After they had ſeen this ſucceſsful experiment, the Peliades cut their father's body to pieces, after they had drawn all the blood from his veins, on the aſſurance that Medea would repleniſh them by her wonderful power. The limbs were immediately put into a cauldron of boiling water; but Medea ſuffered the fleſh to be totally conſumed, and refuſed to give the promiſed aſſiſtance, and the bones of Pelias did not even receive a burial.

(1.) * PELICAN. *n. ſ.* [*pelicanus*, low Lat. *pellican*, Fr.] There are two ſorts of *pelicans*; one lives upon water and feeds upon fiſh; the other keeps in deſerts, and feeds upon ſerpents and other reptiles: the *pelican* has a peculiar tenderneſs for its young; it generally places its neſt upon a craggy rock: the *pelican* is ſuppoſed to admit its young to ſuck blood from its breaſt. *Calmet.*—

'Twas this fleſh begot thoſe *pelican* daughters.
Shak.

—The *pelican* hath a beak broad and flat, like the ſlice of apothecaries. *Hakewill on Prov.*

(2.) PELICAN, in ornithology. See PELICANUS.

(3.) PELICAN, in chemiſtry, is a glaſs alembic conſiſting of one piece. It has a tubulated capital, from which two oppoſite and crooked beaks paſs out, and enter again at the belly of the cucurbit. This veſſel has been contrived for a continual diſtillation and cohobation, which chemiſts call *circulation*. The volatile parts of ſubſtances put into this veſſel riſe into the capital, and are obliged to return through the crooked beaks into the cucurbit; and this without interruption, or luting and unluting the veſſels. Although the pelican ſeems to be a very convenient inſtrument, it is now little uſed; either becauſe the modern chemiſts have not ſo much patience as the ancient chemiſts had for making long experiments; or becauſe they find that two matreſſes, the mouth of one of which is inſerted in the mouth of the other produce the ſame effect.

(1—3.) PELICAN ISLAND, 3 ſmall iſlands: viz 1. on the NE. coaſt of Antigua; Lon. 61. 24. W Lat. 17. 14. N. 2. on the SW. coaſt of Antigua Lon. 61. 35. W. Lat. 17. 10. N. 3. near the SW coaſt of W. Florida. Lon. 88. 6. W. Lat. 30. 1 N.

(4.) PELICAN ISLANDS, a cluſter of iſlands, ne the coaſt of W. Florida. Lon. 88. 55. W. Lat. 2 48. N.

(5.) PELICAN ISLANDS, a cluſter of iſlands o the S. coaſt of Jamaica, W. of Port-Royal ha bour.

(1.) PELICAN KEY, GREAT, an iſland near t S. coaſt of Jamaica. Lon. 76. 48. W. Lat. 17. 4 N.

(2.) PELICAN KEY, LITTLE, an iſland near t S. coaſt of Jamaica, lying N. of Great Pelican K

PELICANUS, in ornithology, a genus belon ing to the order of anſeres. The bill is ſtrai without teeth, and crooked at the point; the f is naked, and the feet are palmated. Mr Lath enumerates no leſs than 30 different ſpecies of t genus beſides varieties. The moſt remarkable theſe:

1. PELICANUS AQUILUS, or the MAN-OF-W BIRD, is in the body about the ſize of a la fowl; in length 3 feet, and in breadth 14. T bill is ſlender, 5 inches long, and much curved the point; the colour is duſky; from the b a reddiſh dark-coloured ſkin ſpreads on each ſ of the head, taking in the eyes: from the un mandible hangs a large membranaceous bag tached ſome way down the throat, as in the p can, and applied to the ſame uſes; the colour this is a fine deep red, ſprinkled on the ſides w a few ſcattered feathers: the whole plumage browniſh black, except the wing coverts, wh have a rufous tinge: the tail is long, and m forked; the outer feathers are 18 inches or m in length; the middle ones from ſeven to eig the legs are ſmall, all the toes are webbed to ther, and the webs are deeply indented; the lour of them is duſky red. The female differ wanting the membranaceous pouch under chin; and in having the belly white: in o things is like the male. The frigate pelican man-of-war bird, is chiefly, if not wholly, with between the tropics, and ever out at being only ſeen on the wing. It is uſual other birds, when fatigued with flying, to reſt the ſurface of the water; but nature, from exceeding length of wing ordained to this, made the riſing therefrom utterly impoſſi though perhaps this is no defect, as it ſcar ſeems to require much reſt; as from the length wing, and its apparent eaſy gliding motion (m like that of the kite), it appears capable of taining very long flights; for it is often ſeen a 100, and ſometimes above 200, leagues from It alſo attacks gulls and other birds which caught a fiſh, when it obliges them to diſgorg and then ſeizes it before it falls into the w They make neſts on trees, and on the ro They lay one or two eggs of a fleſh-colour ed with crimſon ſpots. The young birds are vered with greyiſh white down: the legs ar the ſame colour, and the bill is white. The a variety of this ſpecies, which is leſs, meaſu

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only two feet nine inches in length: the extent from wing to wing is five feet and a half. The bill is five inches long, and red; the base of it, and bare space round the eye, are of the same colour; the nostrils are sufficiently apparent, and appear near the base; the shape of the bill is as in the larger one: the head, hind part of the neck, and upper parts of the body and wings, are ferruginous brown; the throat, fore part of the neck, and breast, are white; the tail is greatly forked as in the other; the legs are of a dirty yellow. Some suppose that the greater and lesser frigates are the same birds, in different periods of age.

3. PELICANUS BASSANUS, the GANNET, or SOLAN GOOSE, weighs seven pounds; the length is three feet one inch; the breadth six feet two inches. The bill is six inches long, straight almost to the point, where it inclines down; and the sides are irregularly jagged, that it may hold its prey with more security: about an inch from the base of the upper mandible is a sharp process pointing forward; it has no nostrils; but in their place a long furrow, that reaches almost to the end of the bill: the whole is of a dirty white, tinged with ash-colour. The tongue is very small, and placed low in the mouth; a naked skin of a fine blue surrounds the eyes, which are of a pale yellow, and are full of vivacity: this bird is remarkable for the quickness of its sight. Martin tells us, that *solan* is derived from an Irish word expressive of that quality. From the corner of the mouth is a narrow slip of black bare skin, that extends to the hind part of the head; beneath the chin is another, that, like the pouch of the pelican, is dilatable, and of size sufficient to contain a quart of herrings; which in the breeding season it carries at once to its mate or young. The young birds, during the first year, differ greatly in colour from the old ones; being of a dusky hue, speckled with numerous triangular white spots; and at that time resemble in colours the speckled diver. Each bird, if left undisturbed, would only lay one egg in the year; but if that be taken away, they will lay another; if that is also taken, then a third; but never more that season. Their egg is white, and rather less than that of the common goose; the nest is large, and formed of any thing the bird finds floating on the water, such as grass, sea-plants, shrubs, &c. These birds frequent the Isle of Ailsa, in the Frith of Clyde; the rocks adjacent to St Kilda; the Stalks of Souliskerry, near the Orkneys; the Skelig Isles, off the coasts of Kerry in Ireland; and the Bass Isle, in the Frith of Forth: the multitudes that inhabit these places are prodigious. These birds are well known on most of the coasts of England, but not by the name of *Solan geese*. In Cornwall and in Ireland they are called *gannets*; by the Welsh, *gan*. We are uncertain whether the gannet breeds in any other parts of Europe besides our own islands; except, as Mr Ray suspects, the sula (described in Clusius's Exotics, which breeds in Feroe Isles) be the same bird.

4. PELICANUS CARBO, the CORVORANT, sometimes exceeds 7 lb. in weight; the length 3 feet the extent 4 feet 2; the bill dusky, 5 inches long, destitute of nostrils; the base of the lower mandible is covered with a naked yellow skin, that extends under the chin, and forms a sort of pouch; a loose skin of the same colour reaches from the upper mandible round the eyes and angles of the mouth; the head and neck are of a sooty blackness, but under the chin of the male the feathers are white; and the head in that sex is adorned with a short, loose, pendant crest: in some both the crest and hind part of the head are streaked with white. The coverts of the wings, the scapulars, and the back, are of a deep green, edged with black, and glossed with blue; the quill-feathers and tail dusky; the legs are short, strong, and black; the middle claw serrated on the inside; the irides are of a light ash-colour. These birds occupy the highest parts of the cliffs that impend over the sea: they make their nests of sticks, sea-tang, grass, &c. and lay 6 or 7 white eggs of an oblong form. In winter they disperse along the shores, and visit the fresh waters, where they make great havoc among the fish. They are remarkably voracious, having a most sudden digestion promoted by the vast quantity of small worms that fill their intestines. The corvorant has the rankest and most disagreeable smell of any bird, even when alive. Its form is disagreeable; its voice hoarse and croaking, and its qualities base. The Chinese make great use of these birds, or a congenerous sort, in fishing; not for amusement, but profit. See CHINESE, § 6.

4. PELICANUS GRACULUS, the SHAG, called in the north of England the *crane*, is much inferior in size to the corvorant: the length is 27 inches; the breadth 3 feet six; the weight 3¼ lb. The bill is four inches long, and more slender than that of the preceding: the head is adorned with a crest two inches long, pointing backward; the whole plumage of the upper part of this bird is of a fine and very shining green; the edge of the feathers a purplish black; but the lower part of the back, the head, and neck, wholly green; the belly is dusky; the tail of a dusky hue, tinged with green; the legs are black, and like those of the corvorant. Both these kinds agree in their manners, and breed in the same places; and what is very strange in web-footed birds, will perch and build in trees: both swim with their head quite erect, and are very difficult to be shot; for, like the grebes and divers, as soon as they see the flash of the gun, they pop under water, and never rise but at a considerable distance.

5. PELICANUS ONOCROTALUS, or the *pelican of Asia*, Africa, and America; though Linnæus thinks that the pelican of America may be a distinct variety. This creature, in Africa, is much larger in the body than a swan, and somewhat of the same shape and colour. Its four toes are all webbed together; and its neck in some measure resembles that of a swan: but the singularity, in which it differs from all other birds, is in the bill and the great pouch underneath. This enormous bill is 15 inches from the point to the opening of the mouth, which is a good way back behind the eyes. See *Plate* 270. At the base the bill is somewhat greenish, but varies towards the end, where it hooks downwards. The under chap is still more extraordinary; for to the lower edges of it hang a bag, reaching the whole length of the bill to the neck,

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neck, which is faid to be capable of containing 15 quarts of water. This bag the bird has a power of wrinkling up into the hollow of the under chap; but by opening the bill, and putting one's hand down into the bag, it may be diſtended at pleaſure. The ſkin of which it is formed will then be ſeen of a bluiſh aſh colour, with many fibres and veins running over its ſurface. It is not covered with feathers, but with a ſhort downy ſubſtance as ſmooth and as ſoft as ſattin, and is attached all along to the under edges of the chap, is fixed backward to the neck of the bird by proper ligaments, and reaches near half way down. When this bag is empty, it is not ſeen; but when the bird has fiſhed with ſucceſs, it is then incredible to what an extent it is often ſeen dilated. For the firſt thing the pelican does in fiſhing is to fill up the bag; and then it returns to digeſt its burden at leiſure. When the bill is opened to its wideſt extent, a perſon may run his head into the bird's mouth, and conceal it in his monſtrous pouch, thus adapted for very ſingular purpoſes. Tertre affirms, that it will hide as many fiſh as will ſerve 60 hungry men for a meal. This pelican was once alſo known in Europe, particularly in Ruſſia; but it ſeems to have deſerted our coaſts. This is the bird of which ſo many fabulous accounts have been propagated; ſuch as its feeding its young with its own blood, and its carrying a proviſion of water for them in its great reſervoir in the deſert. But the abſurdity of the firſt account anſwers itſelf; and as for the latter, the pelican uſes its bag for very different purpoſes than that of filling it with water. Clavigero, in his Hiſtory of Mexico, ſays that "there are two ſpecies, or rather varieties, of this bird in Mexico; the one having a ſmooth bill, the other a notched one." The pelican, ſays Labat, has ſtrong wings, furniſhed with thick plumage of an aſh-colour, as are the reſt of the feathers over the whole body. Its eyes are very ſmall, when compared with the ſize of its head; there is a ſadneſs in its countenance, and its whole air is melancholy. It is ſlow of flight; and when it riſes to fly, performs it with difficulty and labour, but when it perceives a fiſh ſufficiently near the ſurface, it darts down upon it with the ſwiftneſs of an arrow, ſeizes it with unerring certainty, and ſtores it up in the pouch. It repoſes for the night; and often ſpends a great part of the day, ſitting in diſmal ſolemnity, and, as it would ſeem, half aſleep, on a tree. The ſame indolence attends them even in preparing for incubation, and defending their young when excluded. The native Americans kill vaſt numbers; not to eat, for they are not fit even for the banquet of a ſavage, but to convert their large bags into purſes and tobacco pouches. Some authors ſay the pelican lives 60 or 70 years. Capt. Keeling, in his voyage to Sierra Leona, ſays the pelicans there are as large as ſwans, of a white colour, with exceeding long bills; and M. Thevenot, in his Travels to the Levant, obſ. rves that the pelicans about ſome part of the Nile near the Red Sea ſwim by the bank ſide like geeſe, in ſuch great numbers that they cannot be counted. F. Morolla, in his voyage to Congo, ſays pelicans are often met with in the road to Singa, and are all over black, except on their breaſt, which is of a fleſh colour like the neck of a turkey. He adds, th father Francis de Pavia informed him, that on h journey to Singia he obſerved certain large whi birds, with long beaks, necks, and feet, whic whenever they heard the ſound of an inſtrume began immediately to dance, and leap about t rivers, where they always reſide, and where they were great lovers: this, he ſaid, he too great pleaſure to contemplate, and continued oft upon the banks of the rivers to obſerve.

6. PELICANUS PUSSUS, or the *great booby*, c ed by Linnæus *Pelicani Baſſani puſſus*, freque the rivers and ſea-coaſts of Florida, purſuing a devouring fiſhes. Mr Cateſby informs us, that has ſeveral times found them diſabled, and ſor times dead, on the ſhore; whence he thinks t they meet with ſharks or other voracious fiſ which deſtroy them. The bird is about the ſ of a gooſe; the head and neck remarkably pro nent; the back of a brown colour; the belly du white; the feet black, and ſhaped like thoſe c corvorant; the head elegantly ſpotted with whi the wings extend ſix feet when ſpread. Both ſpecies and the SULA have a joint in the up mandible of the bill, by which they can rai conſiderably from the lower one without open the mouth.

7. PELICANUS SULA, *the booby*, is ſomewha than a gooſe; the baſis of the bill yellow, an bare feathers; the eyes of a light grey colour; lower part of the bill of a light brown. The lours of the body are brown and white; but ried ſo in different individuals, that they ca be deſcribed by them. Their wings are very l their legs and feet pale yellow, ſhaped like t of corvorants. They frequent the Bahama iſla where they breed all months in the year, la 1, 2, or 3 eggs, on the bare rock. While yo they are covered with a white down, and c nue ſo till they are almoſt ready to fly. T feed on fiſh, but have a very trou bleſome en in the man-of-war bird, which lives on the f obtained from other ſea-birds, particularly booby. Such readers as deſire further informa reſpecting this numerous genus, may conſult *ward's Hiſtory of Birds; Natural Hiſtory of Ja ca: Mem. de l'Academie Royale des Sciences,* 1666 *juſqu'à* 1699, tom. 3. p. 186; *Willoug Pennant's Britiſh* and *Arctic Zoology*; and *tham's Synopſis of Birds*; the laſt of which i fulleſt and moſt ſcientifical of any we have yet

PELICARO, a town of Naples in Baſilicat miles ENE. of Turſi.

PELIDES, a patronymic of Achilles, and rhus, as deſcended of Peleus.

PELIGNI, an ancient nation of Italy, dwelt near the Sabines and the Marſi. Their towns were Cortinium and Sulmo. *Liv.* 29. *Strabo.* 5.

PELIKANY, a town of Lithuania, in W 16 miles SSW. of Braſlaw.

PELIM, a town, lake, and river of Ruſſ Tobolſk. The river runs into the lake, wh 56 miles in circumference. Lon. 81. 36. E. Lat. 59. 20. N.

PELING, an iſland of Aſia, in the Yellow near the coaſt of Corea; 10 miles long and 4 b Lon. 142. 14. E. Perro. Lat. 38. 24. N.

PELI

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PELINNA, or PELINNÆUM, } an ancient town of Macedonia. *Strabo.* xiv. *Liv.* xxxvi, 13, and 14.

PELION, or PELIOS, } a mountain of Theſſaly, near Oſſa, hanging over the Sinus Pelaſgicus, or Pegaſicus; its top covered with pines, the ſides with oaks, and wild ath. *(Diod. Sic. Mela. Virg. Hor. Ovid, Sen. V. Flac.)* From this mountain was cut the ſpear of Achilles, called *pelias*, which none but himſelf could wield. (*Homer*). Dicæarchus, Ariſtotle's ſcholar, found this mountain two paces higher than any other of Theſſaly. (*Plin.*) *Pelius*, and *Peliacus*, the epithets. *Gic. Cat.*

PELIOU, a town of China, in Quang-ſi.

PELISE, a river of the French imperial republic in the ci-devant Piedmonteſe; which riſes in mount La Croix, paſſes by Lucerne; and runs into the Cluſone, one mile S. of Vigone.

PELISSA, a town and county of Lower Hungary. The town is ſeated near the Danube; 15 miles N. of Buda. Lon. 18. 20. E. Lat. 47. 40. N.

PELISSANE, a town of France, in the dep. of the Mouths of the Rhone; 3 miles E. of Salone, and 15 WNW. of Aix.

PELISON. See PELLISON.

PELIUM, a town of Macedonia. *Liv.* 31, 40.

PELL, John, D. D. an eminent mathematician, of an ancient family in Lincolnſhire, born at Southwick in Suſſex, March 1, 1610, and educated at Cambridge, where he took his degree of M. A. in 1630. In 1619, he drew up the *Deſcription and Uſe of the Quadrant.* In 1643, he was choſen Prof. of Mathematics at Amſterdam. In 1646, the Pr. of Orange appointed him profeſſor of that at Breda. He returned to England, in 1652; and, in 1654 was ſent by Oliver Cromwell, as agent to the Proteſtant Swiſs Cantons. He reſided at Zurich 4 years with the title of *Ablegatus*, and returned 13d June 1658. After the reſtoration, for which he contributed to promote, he entered into orders; was created D. D. ordained deacon in 1660, and rector of Laingdon, in Eſſex, in 1663. He publiſhed a work on Algebra, and on the 10th Comet, with other tracts. He died at London, in 1685.

PELLA, in ancient geography, a town of Paeonia on the confines of Emathia. (*Ptolemy.*) Pliny allots it to Bottiæa, a maritime diſtrict called Sinus Thermaicus. It was the royal reſidence, ſituated on an eminence, on the SW. encompaſſed with unpaſſable marches ſummer and winter; in which, next the town, a citadel like an iſland roſe, placed on a bank or dam, a ſtupendous work, both ſupporting the wall and ſecuring it from hurt by the circumfluent waters. At a diſtance, it ſeemed cloſe to the town, but was ſeparated from it by the Ludias, running under the walls, and joined to it by a bridge; 120 ſtadia from the ſea, the Ludias being ſo far navigable. (*Liv Strab.*) Mela calls it PELLE. It was the birth-place of Philip, who enlarged it; and the friends of Alexander; (*Strabo Mela,*) and continued to be the royal reſidence down to Perſeus. Pliny calls it *Pella Colonia*, by Pliny, and *Julia Auguſta* upon coin. It afterwards declined, and had but few and mean inhabitants. Now it is now called Πελλίσιον, *Pallatiſia*, i. e. the *Little Palace.* (*Holſtenius.*) *Pellæus*, the gentilitious name and epithet. Lucian, Juv. Mart.

(2.) PELLA, a town of the Decapolis, on the other ſide the Jordan; abounding in water. (*Poly. Plin.*) built by the Macedonians, (*Strabo,*) or by Seleucus; (*Euſebius;*) anciently called *Butis*; (Stephanus:) and APAMEA, (Strabo;) 35 m. NE. of Geraſa. (*Ptol.*) Thither the Chriſtians, juſt before the ſiege of Jeruſalem by Titus, were divinely admoniſhed to fly. (*Euſebius.*) It was the utmoſt boundary of the Peræa, or Transjordan country, on the N. *Joſephus.*

(3.) PELLA, in modern geography, a town of Ruſſia, at the conflux of the Neva and Tofna; 20 miles SE. of Peterſburg.

PELLÆUS, a title of Alexander.

PELLANE, a town of Laconia. *Pauſ.* iii, 21.

PELLE. See PELLA, N° 1.

PELLEGRIN, Simon Joſeph, a learned French writer, born at Verſailles, in 1663. He entered into the order of Servites; and wrote on various ſubjects, ſome ſcriptural, others dramatic, poetical, &c. In 1704, he obtained the Academy's prize, for his Epiſtle to Lewis XIV. on the ſucceſs of his Arms. He wrote alſo ſome comedies and operas. By the influence of Mad. Maintenon, he was tranſlated to the order of Cluny. He died in 1745, aged 82.

PELLEGRINI, Anthony, an eminent hiſtorical painter, born at Padua, in 1674. He ſtudied at Venice under Paul Pagani. The D. of Mancheſter brought him over to England, where he performed ſeveral capital works for the nobility. He died in 1741.

(1.) PELLEGRINO, Tibaldi, or Theobald, an eminent Italian painter and ſculptor, born at Bologna, in 1522. He was employed by Charles V. to ornament the Eſcurial; for which he was rewarded with 100,000 crowns and the title of marquis. He died in 1592, aged 70.

(2.) PELLEGRINO of Modena, an eminent Italian painter, born in that city, in 1511. He ſtudied under Raphael, and was employed in the paintings of the Vatican. He died of a wound received in the ſtreet in attempting to reſcue his ſon, who had committed murder.

(3.) PELLEGRINO, ST, a town of Maritime Auſtria in Iſtria, 2 miles SSE. of Umago.

(4.) PELLEGRINO, ST, a town of the French republic, in Corſica, 21 miles SSE. of Baſtia.

PELLEGRUE, a town of France, in the department of the Gironde, 30 miles E. of Bourdeaux.

PELLENBERK, a town of the French imperial republic, in the dep. of the Dyle, and ci-devant prov. of Auſtrian Brabant; 3 miles E. of Louvain. Near it the French republicans were defeated by the troops of the allies, on the 22d March 1793, with the loſs of 2000 men.

PELLENDORF, two towns of Auſtria: 1. ten miles W. of Zifterdorf: 2: 8 miles SE. of Vienna.

PELLENEI, an ancient town of Achaia, in Peloponneſus, W. of Sicyon, famous for its wool. *Strab.* viii. Pauſ. vii, 26.

PELLENINKEN, a town of Pruſſian Lithuania; 9 miles NE. of Inſterburg.

(1.) PELLERIN, a town of France, in the dep.

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of the Lower Loire, with a harbour, on the Loire; 9 miles N. of Nantes, and 12 SE. of Painbœuf.

(2.) Pellerin, Joſeph, an eminent French Antiquarian, born in 1683. He was commiſſary general, and Clerk of the French marine. He became famous for a capital collection of medals, which Lewis XIV enabled him to purchaſe; and he enriched the ſcience with a valuable work on the ſubject, in 9 vols 4to with numerous elegant plates. He died in 1782, aged 99.

(1.) * PELLET. *n. ſ.* [from *pila*, Lat. *pelote*, Fr.] 1. A little ball. A cube or *pellet* of yellow wax as much as half the ſpirit of wine, burnt only 87 pulſes. *Bacon.*—That which is ſold to the merchants, is made into little *pellets*, and ſealed. *Sandys.*—I dreſſed with little *pellets* of lint. *Wiſem.* 2. A bullet; a ball to be ſhot.—Leſt two bodies ſhould be in one place, there muſt needs alſo follow an expulſion of the *pellet* or blowing up of the mine; but theſe are ignorant ſpeculations; for flame, if there were nothing elſe, will be ſuffocated with any hard body, ſuch as a *pellet* is, or the barrel of a gun. *Bacon.*—How ſhall they teach us in the air with thoſe *pellets* they can hardly roll upon the ground. *L'Eſtrange.*—In a ſhooting trunk, the longer it is to a certain limit, the more forcibly the air paſſes and drives the *pellet*. *Ray.*

(2.) Pellets, in heraldry, thoſe roundles that are black; called alſo *ogreſſes* and *gunſtones*, and by the late French heralds *toteaux de ſable*.

* PELLETED. *adj.* [from *pellet*.] Conſiſting of bullets.—

My brave Egyptians all,
By the diſcandying of this *pelleted* ſtorm,
Lie graveleſs. *Shak.*

(1.) PELLETIER, Claud, a learned French lawyer, born at Paris, in 1630. He was counſellor of the Chatelet and Preſident of the Merchants; in which office, he conſtructed the celebrated quay which bears his name. He ſucceeded M. Colber, as comptroiler general of the finances. He wrote ſeveral books on Law; alſo *Comes Theologus*, *Comes Ruſticus*, *&c.*

(2.) Pelletier, James, M. D. and an eminent mathematician, born at Mans in 1517. He was an excellent Latin and French poet, a good orator, phyſician, and grammarian. He wrote *Oeuvres Poetiques Commentaires Latins ſur Euclide*, and a Treatiſe on Orthography. He died at Paris, in 1583.

(3.) Pelletier, Bertrand a late eminent French chemiſt, born at Bayonne in 1761. He was admitted a pupil in the chemical, laboratory of the French college, when very young, and gave early proofs of genius. He ſtudied 5 years under the celebrated prof. Darcet, and at 21 years of age, publiſhed *Obſervations on the Arſenical Acid*. After this his diſcoveries and publications became numerous: on the cryſtallization of ſulphur, cinnabar and the diliqueſcent ſalts; on zeolites; on the oxygenated muriatic acid; on æthers, phoſphorus, the phoſphoric acid, &c. But during his operations on that moſt aſtoniſhing production of chemiſtry, phosphorus, he burned himſelf ſo dangerouſly, that he was confined to bed for 6 months. On his recovery, he began his ana of the plumbagos of various countries: and ring his analyſis of the carbonat of bar diſcovered by experiments on various ani that this earth is a true poiſon. He alſo ana ed ſtrontian, verditer, &c. &c. and was goin ſucceſsfully with his chemical experiments, v he at laſt fell a ſacrifice to his thirſt after ſci by reſpiring the oxygenated muriatic gas t had almoſt killed him inſtantaneouſly; but he recovered for the moment, it induced a vulſive aſthma, and pulmonary conſump which cut him off in the flower of his age; he died at Paris, July 21ſt. 1797. He w member of the Academy of Sciences at Pari

(1.) * PELLICLE. *n. ſ.* [*pellicula*, Latin.] thin ſkin.—After the diſcharge of the fluid *pellicle* muſt be broke. *Sharp's Surgery.* 2. often uſed fo the film which gathers upon li impregnated with ſalts or other ſubſtances, evaporated by heat.

(2.) Pellicle, among phyſicians, deno thin film or fragment of a membrane.

PELLISON, or Pelisson Fontanier, an author of the 17th century, was born at B in 1624, and educated in the Proteſtant rel In 1652 he purchaſed the poſt of ſecretary t king, and in 1657, became firſt deputy t Fouquet. He ſuffered by the diſgrace of miniſter; and in 1661 was confined in the B whence he was not diſcharged till 1665. D his confinement he applied himſelf to the of controverſy; and in 1670 abjured the P tant religion. Lewis XIV. rewarded him w annual penſion of 2000 crowns; and ſeveral In 1676 he had the abbey of Giment, and years after the priory of St Orens at Auch died at Verſailles, in 1693. His principal are, 1. The Hiſtory of the French Academ Reflections on religious Diſputes, &c. in 12mo. 3. The Hiſtory of Lewis XIV. 5 torical Letters and Miſcellanies in 3 vols 12

(1.) * PELLITORY. *n. ſ.* [*parietaria*, An herb.

(2.) Pellitory. See Parietaria.

(3.) Pellitory, Bastard. } Two ſpec
(4.) Pellitory, Double. } Achillæa

(5.) Pellitory of Spain. See Anth N° 3.

(6.) Pellitory of Spain, False, a ſ of Chrysanthemum.

(7.) Pellitory of the Wall. See P TARIA.

(8.) Pellitory, Tree. See Zanth LUM.

* PELL-MELL. *adv.* [*peſle meſle*, Fr.] fuſedly; tumultuouſly; one among another confuſed violence.—

When we have daſh'd them to the gro
Then defie each other, and *pell mell*
Make work upon ourſelves. *Shak. King*
Never yet did inſurrection want
Such moody beggars, ſtarving for a time
Of *pell-mell* havock and confuſion. *Hen*

—After theſe ſenators have battered epi government, with their paper ſhot, then th *pell-mell* upon the ſervice book. *White.*—

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He knew when to fall on *pell-mell*,
To fall back and retreat as well. *Hudibras.*

(1.) * PELLS. *n. ſ.* [*pellis*, Lat.] Clerk of the ells, an officer belonging to the exchequer, who ters every teller's bill into a parchment roll cal- *pellis acceptorum*, the roll of receipts; and alſo akes another roll called *pellis exituum*, a roll of he diſburſements. *Bailey.*

(2.) PELLS, CLERK OF THE. See CLERK, N° 22.

* PELLUCID. *adj.* [*pellucidus*, Lat.] Clear; ranſparent; not opake; not dark.—This is the ſe of agates and other coloured ſtones, the co- rs of ſeveral whereof may be extracted, and the ſtals rendered as *pellucid* as cryſtal, without ſen- ly damaging the texture. *Woodward.*—If water made warm in any *pellucid* veſſel emptied of the water in the vacuum will bubble and boil vehemently as it would in the open air in a ſet upon the fire, till it conceives a much ater heat. *Newton's Opticks.*

* PELLUCIDITY. } *n. ſ.* [from *pellucid.*]
* PELLUCIDNESS. } Tranſparency; clear- ſs, not opacity.—The air is a clear and pellucid ſubſtance, in which the inſenſible particles of ſolid matter float, without troubling the *pellu- dity* of the air; when on a ſudden by a precipi- n they gather into viſible miſty drops that ke clouds. *Locke.*—We conſider their *pellucid- y* and the vaſt quantity of light, that paſſes ough them without reflection. *Keil.*

PELLUSIN, a town of France in the depart- ent of the Rhone and Loire; 12 miles E. of St ienne.

PELOPEIA, in fabulous hiſtory, the daughter Pelopias, and mother, by him, of ÆGISTHUS. ee theſe articles.

PELOPIA, a feſtival obſerved by the Eleans in onour of Pelops. A ram was ſacrificed on the ltar, which both prieſts and people were pro- ibited from partaking of, on pain of excommu- ication from Jupiter's temple; the neck only llotted to the officer who provided wood for acrifice. This officer was called πελλεύς; and e poplar was the only wood made uſe of at Olympia.

PELOPIDAS, the ſon of Hippoclus, a cele- rated general of Thebes, in Bœotia. He was ſprung of an illuſtrious family, and had im- enſe riches, which he diſtributed with uncom- on liberality among the poor citizens. He was n intimate friend of Epaminondas, and theſe two en, by their valour and public ſpirit, raiſed eir country to a degree of importance and glory, at it never enjoyed before or after them. Thebes had been for ſome time under the govern- ent of Spartan tyrants, who exiled Pelopidas and ther friends of Theban independence; but lopidas returned from Athens, with a choſen nd of twelve other exiled Thebans who killed e Spartan tyrants, and reſtored liberty to their ountry. The Thebans then elected him gover- or Bœotia, and aſſociated Epaminondas with m; and theſe two great men immortalized their ame by the deciſive victory at Leuctra. (See UCTRA.) In a war which the Thebans after- ards carried on againſt Alexander tyrant of Pheræ, Pelopidas was appointed commander, but had nearly loſt his life, by truſting himſelf unarmed in the tyrant's camp. Tho' in the character of an ambaſſador he was ſeized as a priſoner, but reſcued by Epaminondas. He was afterwards killed in a battle with the ſame tyrant, tho' his troops obtained the victory A. A. C. 364; but his death was amply revenged by the Thebans, who took Pheræ, and killed the tyrant. Statues of braſs were erected, and every other mark of reſpect paid to the memory of Pelopidas; and his children were endowed with a large territory of land. *Xenoph. Plut. C. Nep. Diod. Polyb.*

(1.) PELOPONNESIAN, *adj.* Of or belonging to Peloponneſus.

(2.) PELOPONNESIAN WAR, *Peloponneſiacum Bellum*, a famous war, which laſted for 27 years between the Athenians and the inhabitants of Peloponneſus, with their reſpective allies, and which ended in the overthrow of the Athenian Republic, and its ſubjection to 30 tyrants. It is the moſt intereſting of all the wars, which happened among the inhabitants of ancient Greece. See ATTICA, § 12, 13.

PELOPONNESUS, a large peninſula in the S. of Greece; ſo called, from *Pelopis nesos*, or *inſula*, though properly not an iſland, but a peninſula; yet wanting but little to be one, viz. the iſthmus of Corinth, ending in a point. (*Dionys.*) It was anciently called *Apia* and PELASGIA; and is ſituated between the Ægean and Ionian ſeas, and reſembling a plantane-leaf, by its angular receſſes or bays. (*Pliny, Strabo, Mela.*) Strabo adds from Homer, that one of its ancient names was *Argos*, with the epithet *Achaicum*, to diſtinguiſh it from Theſſaly, called *Pelaſgicum*. It was divided into ſix parts; viz. Argolis, Laconica, Meſſenia, Elis, Achaia, and Arcadia. (*Mela.*) It is now called the MOREA. It comprehended the moſt ſouthern parts of Greece; and was 200 miles long, and 140 broad.

PELOPS, in fabulous hiſtory, the ſon of Tantalus king of Phrygia. In his infancy he was murdered by his father, cut in pieces, and ſerved up at a feaſt to the gods, to try their divine omniſcience. None of them however eat of him, but Ceres, who eat one of his ſhoulders. Jupiter reſtored him to life, and gave him an ivory ſhoulder which had the miraculous power of healing all diſeaſes by its touch; and he puniſhed the impiety of Tantalus, by condemning him to eternal hunger and thirſt, in the view of excellent food and drink in hell. (See TANTALUS.) Pelops afterwards went into Elis, where he became a ſuitor of HIPPODAMIA, the daughter of OENOMAUS, K. of Piſa, who being warned by an oracle that he would periſh by the hands of his ſon-in-law, and, being himſelf an excellent charioteer, refuſed to marry her to any perſon, but the man who ſhould overcome him in a chariot race. The previous condition being, that thoſe whom he defeated were to forfeit their lives, 13 young princes had already periſhed. Pelops, however, ventured to compete with him, and having previouſly bribed MYRTILUS, his charioteer, to mount him on an inſufficient chariot, Oenomaus was killed in the courſe, but with his laſt breath, requeſted Pelops to avenge him on Myrtilus; which he accordingly did, by throwing him into

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the sea, from him named MYRTOUM MARE. Pelops then married Hippodamia, by whom he had ATREUS, THYESTES, *Pittheus*, *Troezen*, &c. He afterwards became so powerful that all the territory of Greece beyond the isthmus of Corinth was from him named PELOPONNESUS. After his death he received divine honours, and was revered above all the other heroes of Greece. He had a temple at Olympia, erected by Hercules near that of Jupiter.

PELORIAS, PELORIS, or PELORUS, } in ancient geography, one of the 3 capes of Sicily, now called FARO. It is said to have been so named from *Pelorus*, the pilot of the ship, which carried Hannibal out of Italy, whom that general, when he found the tide driving the vessel into the straits of charybdes, killed, on the supposition that he was going to betray him to the Romans; and therefore to gratify his manes, he named the cape after him.

PELOSO, a town of Naples, 35 miles W. of Bari. Lon. 16. 20. E. Lat. 41. 36. N.

PELOUAILLE, a town of France, in the dep. of Maine and Loire, 5 miles NE. of Angers, and 13½ W. of Bange.

* PELT. *n. s.* [from *pelle*, Lat.] 1. Skin; hide.—The camel's hair is taken for the skin or *pelt* with the hair upon it. *Brown's Vulgar Errours.*—

A scabby tetter on their *pelts* will stick. *Dryd.*

2. The quarry of a hawk all torn. *Ainsworth.*

* *To* PELT. *v. a.* [*peltern*, German, *Skinner*; contracted from *pellet*, Mr *Lye*.] 1. To strike with something thrown. It is generally used of something thrown, rather with teazing frequency than destructive violence.—

Poor naked wretches whereso'er you are
That bide the *pelting* of this pitiless storm! *Shak.*
The chiding billows seem to *pelt* the clouds.
Shak.

No zealous brother there would want a stone
To maul us cardinals, and *pelt* pope Joan. *Dryd.*

—Obscure persons have insulted men of great worth, and *pelted* them from coverts with little objections. *Atterbury.*—I might easily with stones *pelt* the metropolis to pieces. *Swift.* 2. To throw; to cast.—

My Phillis me with *pelted* apples piles. *Dryd.*

PELTA, a small, light, manageable buckler, used by the ancients. It was worn by the Amazons. It is said to have resembled an ivy leaf in form; by others it is compared to the leaf of an Indian fig-tree; and by Servius to the moon in her first quarter.

PELTARIA, in botany, a genus of the siliculosa order, belonging to the tetradynamia class of plants; and in the natural method ranking under the 39th order, *Siliquosæ*. The silicula is entire, and nearly orbiculated, compressed-plane, and not opening.

* PELTING. *adj.* This word in *Shakespeare* signifies, I know not why, mean; paltry; pitiful.

Every *pelting* petty officer
Would use his heav'n for thunder. *Shak.*
Fogs, falling in the land,
Have every *pelting* river made so proud,
That they have overborn their continents. *Shak.*
They from sheepcotes and poor *pelting* villages
Enforce their charity. *Shakespeare.*

—A tenement or *pelting* farm. *Shak.*

* PELTMONGER. *n. s.* [*pellio*, Lat. *pelt-monger.*] A dealer in raw hides.

(1.) * PELVIS. *n. s.* [Latin.] The lower part of the belly.

(2.) PELVIS. See ANATOMY, *Index.*

PELUSIUM, in ancient geography, a n and strong city of Egypt, without the Delta stadia from the sea; situated amidst marshes; hence its name and its strength. It is called *key* or *inlet of Egypt* by Diodorus and Hirt which being taken, the rest of Egypt lay exposed to an enemy. It is called *Sin* by Ezek *Pelusiacus* the epithet. *(Virg. Diod.)* Fro ruins arose Damietta. Pelusium was often t and pillaged during the wars of the Romans, Greeks, and the Arabs. But in spite of so disasters, she preserved to the time of the Cru her riches and her commerce. The Chr princes, having taken it by storm, sacked i never again rose from its ruins; and the in tants went to Damietta. See DAMIETTA.

(1.) PEMBA, or PENDA, an island in t Indian Sea, near the coast of Africa; 100 mi circumference; governed by a king, who is tary to the Portuguese. Lon. 40. 0. E. Lat. 5.

(2.) PEMBA, a province of Africa, in C Banza, or St Salvador, is the capital, acco to Mr Cruttwell; but Dr Brookes says,

(3.) PEMBA is the capital of the above vince; in Lon. 18. 25. E. Lat. 7. 30. S.

PEMBRIDGE, a town of Herefordshire, Arrow; with an woollen manufacture, market on Tuesday; 12 miles NW. of Her and 145 WNW. of London. Lon. 2. 42. W 52. 14. N.

(1.) PEMBROKE, a city of S. Wales, of Pembrokeshire. It is situated upon a of Milford-Haven, about 256 miles from L It has two handsome bridges over two small which run into a creek, forming the W. a promontory. It is well inhabited, has good houses, one church, and a custom-ho has one long straight street, upon a narro of a rock; and the two rivers seem to arms of Milford-Haven, which ebbs and close up to the town. It is governed by or, bailiffs, and burgesses; and sends one ber to the British parliament. It was an fortified with walls, and a magnificent cast ed on a rock at the W. end of the town. rock, under the chapel, is a natural cavern *Wogan*, remarked for a very fine echo: supposed to have been a store-room for t rison, as there is a staircase leading into the castle: it has also a wide mouth towa river. This structure being burnt a few y ter it was erected, it was rebuilt. It w birth-place of Henry VII. and is memora the brave defence made by the garrison for I. It is 10 miles SE. of Haverford-w WSW. of Caermarthen, and 237 W. by London. Lon. 5. 3. W. Lat 51. 37. N.

(2.) PEMBROKE, Countess of. See HERBERT

(3.) PEMBROKE, a town of Massachus Plymouth county, 31 miles S. by E. of B containing 1954 citizens, in 1795.

(4.) PEMBROKE, a township of New

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ſhire, in Rockingham county, on the E. ſide of the Merrimack, oppoſite Concord, and 5 miles SE. of it. In 1795, it had 956 citizens.

PEMBROKESHIRE, a county of Wales, bounded on all ſides by the Iriſh ſea, except on the E. where it joins to Caermarthenſhire, and on the NE. to Cardiganſhire. It lies the neareſt to Ireland of any county in Wales; and extends in length from N. to S. 35 miles, and from E. to W. 29. It is about 140 in circumference. It is divided into ſeven hundreds, and contains about 300,000 acres, one city, 8 market towns, two forts, and 145 pariſhes: and, according to the return made to the imperial parliament, on the 26th June 1801, contained 11,776 houſes; 25,165 males, and 30,650 females; in all, 55,815 ſouls. It lies in the province of Canterbury, and dioceſe of St David's. It ſends three members to parliament, viz. one for the ſhire, one for Haverfordweſt, and one for the city. The air of Pembrokeſhire, conſidering its ſituation, is good; but it is in general beſt fartheſt from the ſea. The ſoil is generally fruitful, eſpecially on the ſea-coaſts; its mountains produce paſture ſufficient to maintain great numbers of ſheep and goats. Its chief commodities are corn, cattle, pit-coal, marl, fiſh, and fuel. Among theſe laſt are falcons, called here peregrins. Amongſt the birds common here are migratory ſea-birds, that breed in the Iſle of Ramſey, and the adjoining rocks called *The Biſhop and his Clerks*. About the beginning of April, ſuch flocks of birds, of ſeveral ſorts, reſort to theſe parts, as appear incredible to thoſe who have not ſeen them. There is a diviſion of the county called *Rhos* in the Welch, which means a large green plain. It is inhabited by the deſcendants of the Flemings, placed there by Henry I. to curb the Welch, who were never able to expel them, though they often attempted it. On the coaſts of this county, is found a kind of alga or laver, the *ſalſuca marina* of Camden. It is gathered in ſpring; of which the inhabitants make a ſort of food, called in Welch *lhavan*, and in Engliſh *laver butter*.

PEMIGEWASSET, a river of New Hampſhire, which riſes from the E. ſide of a hill, and after running 50 miles, joins the Winipiſcogee, at Sanbornstown, and forms the MERRIMACK.

PEMISSISAQUEWAKEE, a river of the United States, in Maine, which runs into the Atlantic, in Lon. 68. 20. W. Lat. 44. 23. N.

(1.) PEN, in geography, a town of Somerſetſhire, in England, on the NE. ſide of Wincanton, where Kenwald, a Weſt Saxon king, ſo totally defeated the Britons, that they were never after able to make head againſt the Saxons; and where, many ages after this, Edmund Ironſide gained a memorable victory over the Danes, who had before, *i. e.* in 1001, defeated the Saxons in that ſame place.

(2.) * PEN. *n. ſ.* [*penna*, Latin.] 1. An inſtrument of writing.—

Never durſt poet touch a *pen* to write,
Until his ink were temper'd with love's ſighs.
Shak.

Eternal deities!
Who write whatever time ſhall bring to paſs,
With *pens* of adamant on plates of braſs.
Dryden.

He takes the papers, lays them down again;
And, with unwilling fingers, tries the *pen*.
Dryd n.

—He remembers not that he took off *pen* from paper till he had done. *Fell.*—I can, by deſigning the letters, tell what new idea it ſhall exhibit the next moment, barely by drawing my *pen* over it, which will neither appear, if my hands ſtand ſtill; or though I move my *pen*, if my eyes be ſhut. *Locke.* 2. Feather.—

The *pens*, that did his pinions bind,
Were like main-yards with flying canvas lin'd.
Spenſer.

3. Wing; though even here it may mean *feather*.—

Feather'd ſoon and fledg'd,
They ſumm'd their *pens*. *Milton.*

4. [from *pennan*, Saxon.] A ſmall incloſure; a coop.—My father ſtole two geeſe out of a *pen*. *Shak.*—The cook was ordered to dreſs capons for ſupper, and take the beſt in the *pen*. *L'Eſtr.*—

She in *pens* his flocks will fold. *Dryden.*

Ducks in thy ponds, and chickens in thy *pens*,
And be thy turkeys num'rous as thy hens.
King.

(3.) *A* PEN, is uſually formed of a gooſe's quill. Pens are alſo ſometimes made of ſilver, braſs, or iron. Dutch pens are made of quills that have paſſed through hot aſhes, to take off the groſſer fat and moiſture, and render them more tranſparent.

(4.) PEN, or PENSTOCK. See PENSTOCK.

(5.) PEN, FOUNTAIN, is a pen made of ſilver, braſs, &c. contrived to contain a conſiderable quantity of ink, and let it flow out by gentle degrees, ſo as to ſupply the writer a long time without being under the neceſſity of taking freſh ink. The fountain pen is compoſed of ſeveral pieces, as in *Plate* CCLXXI. where the middle piece F carries the pen, which is ſcrewed into the inſide of a little pipe, which again is ſoldered to another pipe of the ſame bigneſs as the lid G; in which lid is ſoldered a male ſcrew, for ſcrewing on the cover, as alſo for ſtopping a little hole at the place and hindering the ink from paſſing through it. At the other end of the piece F is a little pipe, on the outſide of which the top-cover H may be ſcrewed. In the cover there goes a port-crayon, which is to be ſcrewed into the laſt mentioned pipe, in order to ſtop the end of the pipe, into which the ink is to be poured by a funnel. To uſe the pen, the cover G muſt be taken off, and the pen a little ſhaken, to make the ink run more freely.

(6.) PEN, GEOMETRIC, an inſtrument in which, by a circular motion, a right line, a circle, an ellipſe, and other mathematical figures, may be deſcribed. It was firſt invented and explained by John Baptiſt Suardi, in a work intitled *Nouvo Iſtromenti per la Deſcrizzione di diverſe Curve Antichi e Moderne*, &c. Several writers had obſerved the curves ariſing from the compound motion of two circles, one moving round the other; but Suardi firſt realized the principle, and firſt reduced

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ced it to practice. It has been lately introduced with ſucceſs into the ſteam engine by Watt and Bolton. The number of curves this inſtrument can deſcribe is truly amazing; the author enumerates not leſs than 1273, which (he ſays) can be deſcribed by it in the ſimple form. It is thus deſcribed in Adam's Geometrical and Graphical Eſſays. *Plate* CCLXXI. *fig.* 1. repreſents the geometric pen; A, B, C, the ſtand by which it is ſupported; the legs A, B, C are contrived to fold one within the other for the convenience of packing. A ſtrong axis D is fitted to the top of the frame; to the lower part of this axis any of the wheels (as *i*) may be adapted; when ſcrewed to it, they are immoveable. EG is an arm contrived to turn round upon the main axis D; two ſliding boxes are fitted to this arm; to theſe boxes any of the wheels belonging to the geometric pen may be fixed, and then ſhd ſo that the wheels may take into each other, and the immoveable wheel *i*: it is evident, that by making the arm EG revolve round the axis D, theſe wheels will be made to revolve alſo, and that the number of their revolutions will depend on the proportion between the teeth. *Fg* is an arm carrying the pencil; this arm ſlides backwards and forwards in the box *e d*, in order that the diſtance of the pencil from the centre of the wheel *h* may be eaſily varied; the box *e d* is fitted to the axis of the wheel *h*, and turns round with it, carrying the arm *fg* along with it: it is evident, therefore, that the revolutions will be fewer or greater in proportion to the difference between the numbers of the teeth in the wheels *h* and *i*; this bar and ſocket are eaſily removed for changing the wheels. When two wheels only are uſed, the bar *fg* moves in the ſame direction with the bar EG; but if another wheel is introduced between them, they move in contrary directions. The number of teeth in the wheels, and conſequently the relative velocity of the epicycle or arm *fg*, may be varied *in infinitum*. The numbers we have uſed are 8, 16, 24, 32, 40, 48, 56, 64, 72, 80, 88, 96. The conſtruction and application of this inſtrument is ſo evident from the figure, that nothing more need be pointed out than the combinations by which various figures may be produced. We ſhall take two as examples: The radius of EG (*fig.* 2.) muſt be to that of *fg* as 10 to 5 nearly; their velocities, or the number of teeth in the wheels, to be equal; the motion to be in the ſame direction. If the length of *fg* be varied, the looped figure delineated at *fig.* 3. will be produced. A circle may be deſcribed by equal wheels, and any radius but the bars muſt move in contrary directions. *To deſcribe by this circular motion a ſtraight line and an ellipſis.* For a ſtraight line, equal radii, the velocity as 1 to 2, the motion in a contrary direction; the ſame data will give a variety of ellipſes, only the radii muſt be unequal; the ellipſes may be deſcribed in any direction." See *fig.* 4.

(7.) PEN, SEA. See PENNATULA.

* *To* PEN. *v. a.* pret. and part. paſſ. *pent.* [*pennan* and *pindan*, Saxon.] 1. To coop; to ſhut up; to incage; to impriſon in a narrow place.—

Away with her, and *pen* her up. *Shak.*

My heavy ſon
Private in his chamber *pens* himſelf. *Shak.*

—The plaiſter alone would *pen* the humour already contained in the part. *Bacon.*—

Their armour help'd their harm, cruſh'd in and bruis'd,
Into their ſubſtance *pent*. *Milton.*

As when a prowling wolf,
Whom hunger drives to ſeek new haunt for prey
Watching where ſhepherds *pen* their flocks at eve. *Milton.*

—The glaſs, wherein it is *penned* up, hinders it to deliver itſelf by an expanſion of its parts. *Boyle.*—They *pen* up their daughters, and permit them to be acquainted with none. *Harvey.*—

Ah! that your bus'neſs had been mine,
To *pen* the ſheep. *Dryden.*

2. [From the noun; pret. and part. paſſ. *penned*] To write. It probably meant at firſt only the manual exerciſe of the pen, or mechanical part of writing; but it has been long uſed with relation to the ſtile or compoſition.—

For prey theſe ſhepherds two he took,
Whoſe metal ſtiff he knew he could not bend
With one good dance or letter finely *penn'd*. *Sidney.*

—I would be loath to caſt away my ſpeech; for, beſides that it is excellently well *penn'd*, I have taken great pains to con it. *Shak.*—Read this challenge, mark but the *penning* of it. *Shak.*—A ſentence ſpoken by him in Engliſh, and *penned* out of his mouth by four good ſecretaries, for trial of our orthography, was ſet down by them. *Camden.*—He frequented ſermons, and *penned* notes with his own hand. *Hayward.*—The precepts *penned*, or preached by the holy Apoſtles were divine and perpetual. *White.*—The digeſting my thoughts into order, and the ſetting them down in writing was neceſſary; for without ſuch ſtrict examination, as the *penning* them affords, they would have been diſjointed and roving ones. *Digby.*—

The judges hearing with applauſe, at th' end
Freed him, and ſaid, no fool ſuch lines had *penn'd*. *Denham.*

—Gentlemen ſhould extempore, or after a little meditation, ſpeak to ſome ſubject without *penning* of any thing. *Locke.*—Should I publiſh the praiſes that are ſo well *penned*, they would do honour to the perſons who write them. *Addiſon.*—

Twenty fools I never ſaw
Come with petitions fairly *penn'd*,
Deſiring I ſhould ſtand their friend. *Swift.*

PENAC, a town of Naples, in Abruzzo Citra, 9 miles ESE. of Civita Borella.

PENÆA, in botany, a genus of the Monogynia order, belonging to the Tetrandriæ claſs of plants; and in the natural method ranking with thoſe of which the order is doubtful. The calyx is diphyllous; the coroila is campanulated; the ſtyle quadrangular; the capſule tetragonal, quadrilocular, and octoſpermous.

PENA GARCIA, a town of Portugal, in Beira, with a caſtle. It was taken by Philip V. in 1704; but on the approach of the allies, he retired from it. It is 6 miles E. of Idanha Velha. Lon. 6. 6. W. Lat. 39. 40. N.

* PENA

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The Geometrical Pen.

Fig 1.

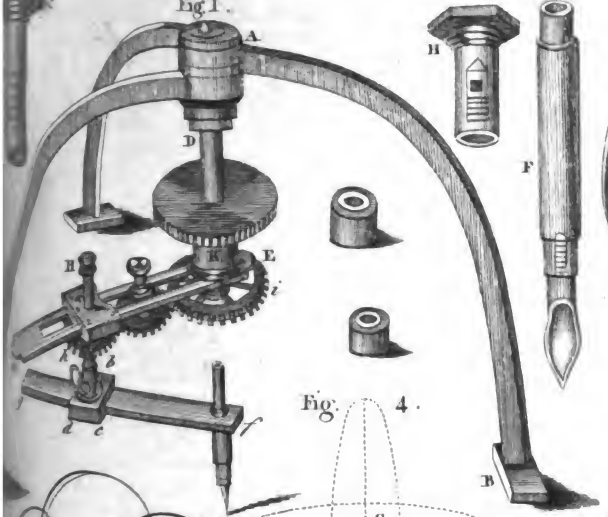


Fig. 3.

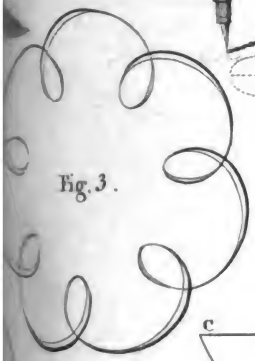
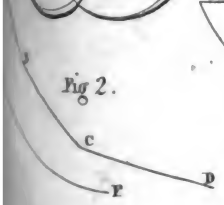


Fig. 2.



Fountain Pen

Fig. 4.

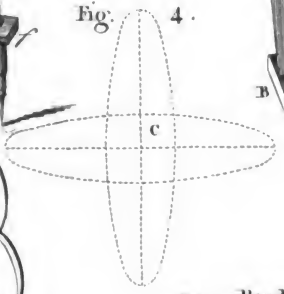
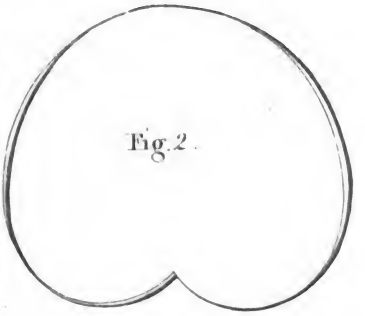


Fig. 2.



PENDULUM

Fig. 8.

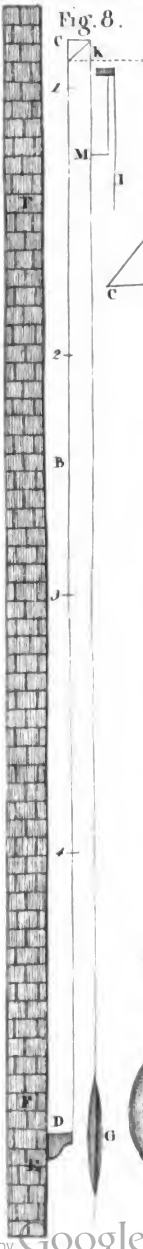


Fig. 1.

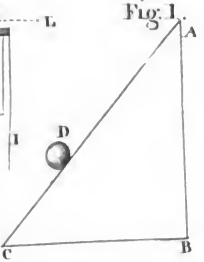
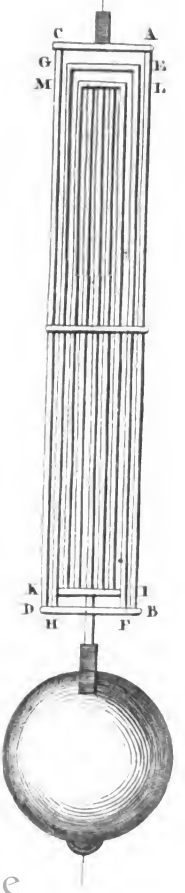


Fig. 7.



Penduhum

Fig. 5.

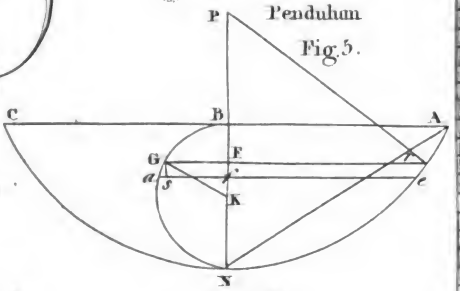


Fig. 3.

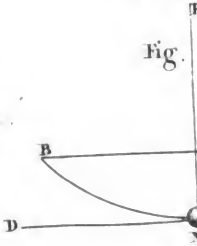
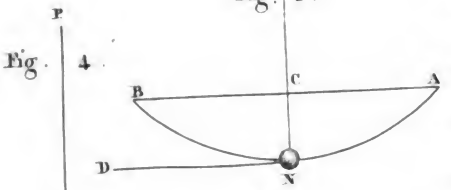


Fig. 4.



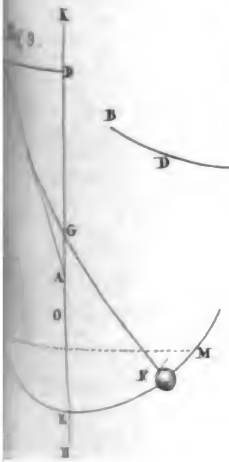
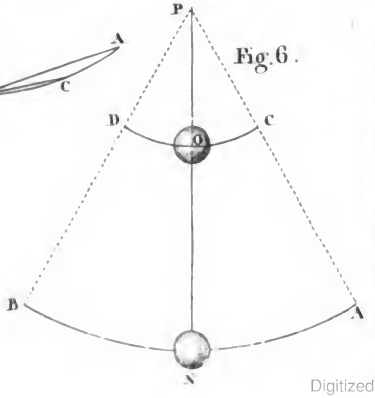


Fig. 6.



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* PENAL. *adj.* [*penal*, Fr. from *pœna*, Lat.] 1. Denouncing punishment; enacting punishment.—Gratitude plants such generosity in the heart of man, as shall more effectually incline him to what is brave and becoming than the terror of any *penal* law. *South.* 2. Used for the purposes of punishment; vindictive.—

Adamantine chains and *penal* fire. *Milton.*

* PENALITY. *n. s.* [*penalité*, old French.] Liableness to punishment; condemnation to punishment.—Many of the ancients denied the Antipodes, and some unto the *penality* of contrary affirmations. *Brown.*

* PENALTY. *n. s.* [from *penalité*, old French.] 1. Punishment; censure; judicial infliction.—Political power is a right of making laws with *penalties* of death, and consequently all less *penalties*, for preserving property. *Locke.*—

Wit dreads exile, *penalties* and pains.
Dunciad.

2. Forfeiture upon non-performance.—

Lend it rather to thine enemy,
Who, if he break, thou may'st with better face
Exact the *penalty*. *Shak.*

PENALVA, a town of Portugal, in Beira; 9 miles N. of Coimbra, as Mr Cruttwell has it, but Dr Brookes makes it 8 miles S. of it. Lon. 8. 17. W. Lat. 40. 4. N.

(1.) * PENANCE. *n. s.* [*penence*, old French; for *penitence*.] Infliction either publick or private, suffered as an expression of repentance for sin.—

And bitter *penance*, with an iron whip,
Was wont him once to disciple every day.
Spenser.

Mew her up,
And make her bear the *penance* of her tongue.
Shak.

—No penitentiary, though he had enjoined him never so straight *penance* to expiate his first offence, would have counselled him to have given over the pursuit of his right. *Bacon.*—

The scourge
Inexorable, and the torturing hour
Calls us to *penance*. *Milton.*

—A Lorain surgeon, who whipped the naked part with a great rod of nettles till all over blistered, persuaded him to perform this *penance* in a sharp as he had. *Temple.*

(2.) PENANCE is a punishment, either voluntary or imposed by authority, for the faults a person has committed. Penance is one of the seven sacraments of the Romish church. Besides fasting, alms, abstinence, and the like, which are the general conditions of penance, there are others of a more particular kind; as the repeating a certain number of ave-marys, paternosters, and creeds, wearing a hair shirt, and giving one's self a certain number of stripes. In Italy and Spain, it is usual to see Roman Catholics almost naked, loaded with chains and a cross, and lashing themselves at every step.

PEN-ANGLAS, a cape of S. Wales, on the N. coast of Pembrokeshire. Lon. 4. 59, W. Lat. 51. 57. N.

PENATES, in Roman antiquity, a kind of tutelar deities, either of countries or particular houses; in which last sense they differed in nothing from the lares. See LARES. They were properly the tutelar gods of the Trojans, and were adopted by the Romans, who gave them the title of *penates*.

PENAUTIER, a town of France, in the dep. of Aude, and ci-devant prov. of Languedoc; 4 miles N. of Carcassone. Lon. 2. 25. E. Lat. 43. 18. N.

PENBRAY, a cape on the S. coast of Wales, and county of Caermarthen, in the Bristol Channel; 3 miles S. of Kidwelly.

PENBUGHTOE HEAD, a cape of S. Wales, on the N. coast of Pembrokeshire. Lon. 5. 5. E. Lat. 51. 56. N.

(1.) PENCAITLAND, a parish of Scotland, in E. Lothian, nearly in the form of an oblong square; 4 miles long from E. to W. and 3 broad. The Tyne divides nearly into 2 equal parts. The soil is wet and clayey, and the old mode of farming prevails. The climate is salubrious; freestone and coals abound; and a coal engine has been erected. There are several mineral waters. There are 155 acres under strong oaks, and birch; and 198 under forest trees. Some of the oaks are above 5½ feet thick. At Winton House there are also some fine trees. The population, in 1793, was 1033; increase 147 since 1755. There are 8 corn and barley mills, several threshing mills, and 3 for lint, &c. besides a bleachfield.

(2.) PENCAITLAND, EASTER, } two villages
(3.) PENCAITLAND, WESTER, } in the above parish, which, with those of *Nisbet* and *Winton*, contained 512 inhabitants in 1793.

PENCARROW, a cape of Cornwall, on the S. coast of the English Channel; 2 miles E. of the mouth of the Fowey.

* PENCE. *n. s.* The plural of *penny*; formed from *pennies*, by a contraction usual in the rapidity of colloquial speech.—The same servant found one of his fellow-servants, which owed him an hundred *pence*, and took him by the throat. *Mat.*

(1.) * PENCIL. *n. s.* [*penicillum*, Latin.] 1. A small brush of hair which painters dip in their colours.—The Indians will perfectly represent in feathers whatsoever they see drawn with *pencils*. *Heylyn.*—

Pencils can by one slight touch restore
Smiles to that changed face, that wept before.
Dryden.

Nature's ready *pencil* paints the flow'rs.
Dryden.

—A sort of pictures there is, wherein the colours, as laid by the *pencil* on the table, mark out very odd figures. *Locke.*—

The faithful *pencil* has design'd
Some bright idea of the master's mind. *Pope.*

2. A black lead pen, with which cut to a point they write without ink.—Mark with a pen or *pencil* the most considerable things in the books you desire to remember. *Watts.* 3. Any instrument of writing without ink.

(2.) PENCILS, (§ 1. *Def.* 1.) are of various kinds, and made of various materials; the largest sorts are made of boars bristles, the thick ends of which are bound to a stick, bigger or less according to the uses they are designed for: these, when large,

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larger are called *bruſhes*. The finer ſorts of pencils are made of camels, badgers, and ſquirrels hair, and of the down of ſwans; theſe are tied at the upper end with a piece of ſtrong thread, and incloſed in the barrel of a quill. All good pencils, on being drawn between the lips, come to a fine point.

(3.) PENCILS, for drawing, are made of long pieces of black lead or red chalk, placed in a groove cut in a ſlip of cedar; on which other pieces of cedar being glued, the whole is planed round, and one of the ends being cut to a point, it is fit for uſe.

* *To* PENCIL. *v. n.* [from the noun.] To paint.—

Since diſhonour trafficks with man's nature,
He is but outſide: *pencil'd* figures are
Ev'n ſuch as they give out. *Soak.*

Nature *pencils* butterflies on flow'rs. *Harte.*

PENCKUM, a town of Germany, in Anterior Pomerania; 13 miles SW. of Old Stettin, and 44 NNW. of Cuſtrin. Lon. 31. 59. E. Ferro. Lat. 53. 15. N.

(1.) PENDA, the firſt king of Mercia, founded that kingdom, A. D. 626. He was killed by Oſwy, K. of Northumberland, A. D. 655. See MERCIA.

(2.) PENDA. See PEMBA, N° 1.

PENDALIUM, a promontory of Cyprus.

(1.) * PENDANT. *n. ſ.* [*pendant*, French.] 1. A jewel hanging in the ear.—

Some hang upon the *pendants* of her ear. *Pope.*

2. Any thing hanging by way of ornament.—

The ſmiling *pendant* which adorns her ſo. *Waller.*

3. A pendulum. Obſolete.—To make the ſame *pendant* go twice as faſt as it did. *Digby.* 4. A ſmall flag in ſhips.

(2.) PENDANTS, (§ 1. *def.* 1.) are often compoſed of diamonds, pearls, and other jewels.

(3.) PENDANTS, in heraldry, parts hanging down from the label, to the number of three, four, five, or ſix at moſt, reſembling the drops in the Doric freeze. When they are more than three, they muſt be ſpecified in blazoning.

(4.) PENDANTS OF A SHIP, are thoſe ſtreamers, or long colours, which are ſplit and divided into two parts, ending in points, and hung at the head of maſts, or at the yard-arm ends.

* PENDENCE. *n. ſ.* [from *pendeo*, Lat.] Slopeneſs; inclination.—The Italians give the cover a graceful *pendence* or ſlopeneſs. *Wotton.*

* PENDENCY. *n. ſ.* [from *pendeo*, Lat.] Suſpenſe; delay of deciſion.—Nor can the appellant allege pendency of ſuit. *Ayliffe.*

PENDENE-Vow, a town of Cornwall, on the N. coaſt, by Morvath. There is here an unfathomable cave under the earth, into which the ſea flows at high water. The cliffs between this and St Ives ſhine as if they had ſtore of copper, of which indeed there is abundance within land.

PENDENNIS, a peninſula of Cornwall, at the mouth of Falmouth-haven, a mile and a half in compaſs. On this Henry VIII. erected a caſtle, oppoſite to that of St Maw's, which he likewiſe built. It was fortified by Q. Elizabeth, and ſerved them for the governor's houſe. It is one of the largeſt caſtles in Britain, and is built on a hig rock. It is ſtronger by land than St Maw's, b ing regularly fortified, and having good ou works.

* PENDENT. *adj.* [*pendens*, Latin; ſor write *pendant*, from the French.] 1. Hanging.

With ribbons *pendent*, flaring about her hea *She*

Deſperate lady near a purling ſtream,
Or lover *pendent* on a willow tree. *Phili*

2. Jutting over.—

A *pendent* rock,
A forked mountain, or blue promontory. *Sh*

3. Supported above the ground.—

A ridge of *pendent* rock
Over the vex'd abyſs. *Milt*

PENDERACHIA. See PAPHLAGONIA.

PEN-DINAS, a cape of Wales, on the coaſt of St Bride's Bay. Lon. 5. 10. W. Lat. 48. N.

* PENDING. *n. ſ.* [*pendente lite.*] Depen ing; remaining yet undecided.—A perſon, *pe ing* ſuit with the dioceſan, ſhall be defended in poſſeſſion. *Ayliffe.*

(1.) PENDLETON, a county of S. Caroli in Waſhington diſtrict, bounded N. by Gre ville, E. by Laurens Co. SE. by Abbeville, S. a W. by the Savannah, which divides it from orgia. It contained 3734 citizens, and 834 ſla in 1795. The ſurface is partly hilly, but fert The court houſe is 52 miles W. of Cambridge

(2.) PENDLETON, a mountainous county Virginia; bounded on the NW. by Randol NE. by Hardy, E. by Rockingham, and SW. Bath counties. It is 40 miles long, and 30 bro and, in 1795, contained 2306 citizens, and ſlaves. It is watered by the S. branch of the tomac. Frankford is the capital.

* PENDULOSITY. } *n. ſ.* [from *pen*
* PENDULOUSNESS. } *lous.*] The ſtat hanging; ſuſpenſion.—His ſlender legs he encr ed by riding, that is, the humours deſcended on their *pendulouſity*. *Brown.*

* PENDULOUS. *adj.* [*pendulus*, Lat.] Ha ing; not ſupported below.—

All the plagues, that in the *pendulous* air
Hang fated o'er men's faults, light on thy da ters. *Shak.*

—Bellerophon's horſe, fram'd of iron, and pla between two loadſtones with wings expan hung *pendulous* in the air. *Brown.*—The grin are furniſhed with three roots, and in the ca jaw often four, becauſe theſe are *pendulous*.

(1.) * PENDULUM. *n. ſ.* [*pendulus*, Lat. *dule*, Fr.] Any weight hung ſo as that it may eaſily ſwing backwards and forwards, of which great law is, that its oſcillations are always performed in equal time.—

Upon the bench I will ſo handle 'em,
That the vibration of this *pendulum*
Shall make all taylors yards of one
Unanimous opinion. *Hud*

(2.) *A* PENDULUM is a vibrating body ſuſp ed from a fixed point. For the hiſtory of thi vention, ſee CLOCK, § 2. The theory of the dulum depends on that of the inclined pl Hence, to underſtand the nature of the pendu it will be neceſſary to premiſe ſome of the pro

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ties of this plane; referring, however, to INCLINED PLANE, and MECHANICS, *Part* II. *Sect.* IV. for the demonstration. I. Let AC (*fig.* 1. *Plate* CCLXXII.) be an inclined plane, AB its perpendicular height, and D any heavy body: then the force which impels the body D to descend along the inclined plane AC, is to the absolute force of gravity as the height of the plane AB is to its length AC; and the motion of the body will be uniformly accelerated. II. The velocity acquired in any given time by a body descending on an inclined plane AC, is to the velocity acquired in the same time by a body falling freely and perpendicularly as the height of the plane AB to its length AC. The final velocities will be the same; the spaces described will be in the same ratio; and the times of description are as the spaces described. III. If a body descend along several contiguous planes, AB, BC, CD, (*fig.* 2.) the final velocity, namely, that at the point D, will be equal to the final velocity in descending through the perpendicular AE, the perpendicular heights being equal. Hence, if these planes be supposed indefinitely small and numerous, they may be conceived to form a curve; and therefore the final velocity acquired by a body in descending through any curve AD, will be equal to the final velocity acquired in descending through the planes AB, BC, CD, or that in descending through AE, the perpendicular heights being equal. IV. If from the upper or lower extremity of the vertical diameter of a circle a cord be drawn, the time of descent along this cord will be equal to the time of descent through the vertical diameter; and therefore the times of descent through all cords in the same circle, drawn from the extremity of the vertical diameter, will be equal. V. The times of descent of two bodies through two planes equally elevated will be in the subduplicate ratio of the lengths of the planes. If, instead of one plane, each be composed of several contiguous planes similarly placed, the times of descent along these planes will be in the same ratio. Hence, also, the times of describing similar arches of circles similarly placed will be in the subduplicate ratio of the lengths of the arches. VI. The same things hold good with regard to bodies projected upwards, whether they ascend upon inclined planes or along the arches of circles. The *point* or *axis of suspension* of a pendulum is that point about which it performs its vibrations, or from which it is suspended. The *centre of oscillation* is a point in which, if all the matter in a pendulum were collected, any force applied at this centre would generate the same angular velocity in a given time as the same force when applied at the centre of gravity. The *length* of a pendulum is equal to the distance between the axis of suspension and centre of oscillation. Let PN (*fig.* 3.) represent a pendulum suspended from the point P; if the lower part N of the pendulum be raised to A, and let fall, it will by its own gravity descend through the circular arch AN, and will have acquired the same velocity at the point N that a body would acquire in falling perpendicularly from C to N, and will endeavour to go off with that velocity in the tangent ND; but being prevented by the rod or cord, will move through the arch NB to B, where, losing all its velocity, it will by its gravity descend through the arch BN, and, having acquired the same velocity as before, will ascend to A. In this manner it will continue its motion forward and backward along the arch ANB, which is called an *oscillatory* or *vibratory* motion; and each swing is called a *vibration*. PROP. I. If a pendulum vibrates in very small circular arches, the times of vibration may be considered as equal, whatever be the proportion of the arches. Let PN (*fig.* 4.) be a pendulum; the time of describing the arch AB will be equal to the time of describing CD; these arches being supposed very small. Join AN, CN; then since the times of descent along all cords in the same circles, drawn from one extremity of the vertical diameter, are equal; therefore the cords AN, CN, and consequently their doubles, will be described in the same time; but the arches AN, CN being supposed very small, will therefore be nearly equal to their cords: hence the times of vibrations in these arches will be nearly equal. PROP. II. Pendulums which are of the same length vibrate in the same time, whatever be the proportion of their weights. This follows from the property of gravity, which is always proportional to the quantity of matter, or to its inertia. When the vibrations of pendulums are compared, it is always understood that the pendulums describe either similar finite arcs, or arcs of evanescent magnitude, unless the contrary is mentioned. PROP. III. If a pendulum vibrates in the small arc of a circle, the time of one vibration is to the time of a body's falling perpendicularly through half the length of the pendulum as the circumference of a circle is to its diameter. Let PE (*fig.* 5.) be the pendulum which describes the arch ANC in the time of one vibration; let PN be perpendicular to the horizon, and draw the cords AC, AN; take the arc E*e* infinitely small, and draw EFG, *efg* perpendicular to PN, or parallel to AC; describe the semicircle BGN, and draw *er*, *gs* perpendicular to EG: now let t = time of descending through the diameter 2 PN, or through the cord AN: Then the velocities gained by falling through 2PN, and by the pendulum's descending through the arch AE, will be as $\sqrt{2PN}$ and $\sqrt{BF}$; and the space described in the time t, after the fall through 2PN, is 4PN. But the times are as the spaces divided by the velocities.

Therefore $\frac{4PN}{\sqrt{2PN}}$ or $2\sqrt{2PN} : t :: \frac{Ee}{\sqrt{BF}}$: time of describing $Ee = \frac{t \times Ee}{2\sqrt{2PN \times BF}}$. But in the similar triangles PEF, E*er*, and KGF, G*gs*, As PE = PN : EF :: E*e* : *er* = $\frac{EF}{PN} \times Ee$; And KG = KD : FG :: G*g* : G*s* = $\frac{FG}{KD} \times Gg$. But *er* = G*s*; therefore $\frac{EF}{PN} \times Ee = \frac{FG}{KD} \times Gg$. Hence $Ee = \frac{PN \times FG}{KD \times EF} \times Gg$. And by substituting this

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value of Ee in the former equation, we have the time of describing $Ee = \frac{t \times PN \times FG \times Gg}{2KD \times EF \times \sqrt{BF \times 2PN}}$. But by the nature of the circle $FG = \sqrt{BF \times FN}$, and $EF = \sqrt{PN + PF \times FN}$. Hence, by substitution we obtain the time of describing $Ee = \frac{t \times PN \times \sqrt{BF \times FN} \times Gg}{2KD \times \sqrt{PN + PF} \times FN \times \sqrt{BF \times 2PN}} = \frac{t \times \sqrt{PN} \times Gg}{2KD \times \sqrt{PN + PF} \times \sqrt{2}} = \frac{t \times \sqrt{2PN} \times Gg}{4KD \times \sqrt{PN + PF}} = \frac{t \times \sqrt{2PN}}{2BN \times \sqrt{2PN - NF}} \times Gg$. But NF, in its mean quantity for all the arches Gg, is nearly equal to NK; For if the semicirle described on the diameter BN, which corresponds to the whole arch AN, be divided into an indefinite number of equal arches Gg, &c. the sum of all the lines NF will be equal to as many times NK as there are arches in the same circle equal to Gg. Therefore the time of describing $Ee = \frac{t \times \sqrt{2PN}}{2BN \times \sqrt{2PN - NK}} \times Gg$. Whence the time of describing the arch $AED = \frac{t \times \sqrt{2PN}}{2BN \times \sqrt{2PN - NK}} \times BGN$; and the time of describing the whole arch ADC, or the time of one vibration, is $= \frac{t \times \sqrt{2PN}}{2BN \times \sqrt{2PN - NK}} \times 2BGN$. But when the arch ANC is very small, NK vanishes, and then the time of vibration in a very small arc is $= \frac{t \times \sqrt{2PN}}{2BN \times \sqrt{2PN}} \times 2BGN = \frac{1}{2}t \times \frac{2BGN}{BN}$. Now, if t be the time of descent through 2 PN; then since the spaces described are as the squares of the times, $\frac{1}{2}t$ will be the time of descent through $\frac{1}{2}$ PN: therefore the diameter BN is to the circumference 2BGN, as the time of falling through half the length of the pendulum is to the time of one vibration. Prop. IV. The length of a pendulum vibrating seconds is to twice the space through which a body falls in one second, as the square of the diameter of a circle is to the square of its circumference. Let d = diameter of a circle = 1, c = circumference = 3·14159, &c. t to the time of one vibration, and p the length of the corresponding pendulum; then by last proposition $c : d :: 1'' : \frac{d}{c}$ = time of falling through half the length of the pendulum. Let s = space described by a body falling perpendicularly in the first second: then since the spaces described are in the subduplicate ratio of the times of description, therefore $1'' : \frac{d}{c} :: \sqrt{s} : \sqrt{\frac{1}{2}p}$. Hence $c^2 : d^2 :: 2s : p$. It has been found by experiment, that in latitude 51½° a body falls about 16·11 feet in the first second: hence the length of a pendulum vibrating seconds in that latitude is $= \frac{32'22}{3'14159}^2 = 3$ feet 3·174 inches. Prop. V. The times of the vibrations of two pendulums in similar arcs of circles are in a subduplicate ratio of the lengths of the pendulums. Let PN, PO (*fig.* 6.) be two pendulums vibrating in the similar arcs AB, CD; the time of a vibration of the pendulum PN is to the time of a vibration of the pendulum PO in subduplicate ratio of PN to PO. Since the arcs AB, CO are similar and similarly placed, the time of descent through AN will be to the time of descent through CO in the subduplicate ratio of AN to CO: but the times of descent through the arcs AN and CO are equal to half the times of vibration of the pendulums PN, PO respectively. Hence the time of vibration of the pendulum PN in the arch AB is to the time of vibration of the pendulum PO in the similar arc CD in the subduplicate ratio of AN to CO: and since the radii PN, PO are proportional to the similar arcs AB, CO, therefore the time of vibration of the pendulum PN will be to the time of vibration of the pendulum PO in a subduplicate ratio of PN to PO. If the length of a pendulum vibrating seconds be 39·174 inches, then the length of a pendulum vibrating half seconds will be 9·793 inches. For $1'' : \frac{1}{2}'' :: \sqrt{39'174} : \sqrt{x}$; and $1 : \frac{1}{4} :: 39'174 : x$. Hence $x = \frac{39'174}{4} = 9'793$. Prop. VI. The length of pendulums vibrating in the same time in different places, will be as the forces of gravity. For the velocity generated in any given time is directly as the force of gravity, and inversely as the quantity of matter. (See Mechanics, *P.* I, *S.* I.) Now the matter being supposed the same in both pendulums, the velocity is as the force of gravity, and the space passed through in a given time will be as the velocity; that is, as the gravity. Since the lengths of pendulums vibrating in the same time in small arcs are as the gravitating forces, and as gravity increases with the latitude on account of the spheroidal figure of the earth and its rotation about its axis; hence the length of a pendulum vibrating in a given time will be variable with the latitude, and the same pendulum will vibrate slower the nearer it is carried to the equator. Prop. VII. The time of vibration of pendulums of the same length, acted upon by different forces of gravity, are reciprocally as the square roots of the forces. For when the matter is given, the velocity is as the force and time; and the space described by any given force is as the force and square of the time. Hence the lengths of pendulums are as the forces and the squares of the times of falling through them. Hence these times are in a given ratio to the times of vibration; whence the lengths of pendulums are as the forces and the squares of the times of vibration. Therefore, when the lengths are given, the forces will be reciprocally as the square of the times, and the times of vibration reciprocally as the square roots of the forces. *Cor.* Let p = length of pendulum, g = force of gravity, and t = time of vibration. Then since $p = g \times t^2$. Hence $p \times \frac{1}{t^2}$; and $t = \sqrt{p \times \frac{1}{g}}$. That is, the forces in different places are directly as the lengths of pendulums, and inversely as the square roots of the times of vibration; and the times of vi

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tion are directly as the ſquare roots of the lengths of the pendulums, and inverſely as the ſquare roots of the gravitating forces. Prop. VIII. A pendulum which vibrates in the arch of a cycloid deſcribes the greateſt and leaſt vibrations in the ſame time. This property is demonſtrated only on a ſuppoſition that the whole maſs of the pendulum is concentrated in a point: but this cannot take place in any really vibrating body; and when the pendulum is of finite magnitude, there is no point given in poſition which determines the length of the pendulum; on the contrary the centre of oſcillation will not occupy the ſame place in the given body, when deſcribing different parts of the tract it moves through, but will continually be moved in reſpect of the pendulum itſelf during its vibration. This circumſtance has prevented any general determination of the time of vibration in a cycloidal arc, except in the ſingulary caſe referred to. There are many other circumſtances which concur in rendering the application of this curve to the vibration of pendulums uſeful for the meaſures of time the ſource of error far greater than thoſe which by its peculiar property it is intended to obviate; and it is now univerſally diſuſed in practice. Although the times of vibration of a pendulum in different arches be nearly equal, yet from what has been ſaid, it will appear, that if the ratio of the leaſt of theſe arches to the greateſt be conſiderable, the vibrations will be performed in different times; and the difference, though ſmall, will become ſenſible in the courſe of ſome more days. In clocks uſed for aſtronomical purpoſes, it will therefore be neceſſary to meaſure the arc of vibration; which if different from that deſcribed by the pendulum when the clock keeps time, there a correction muſt be applied to the time ſhown by the clock. This correction, expreſſed in ſeconds of time, will be equal to one half of three times the difference of the arc of the given arc, and of that of the arc deſcribed by the pendulum when the clock keeps time, theſe arcs being expreſſed in degrees; and by which will the clock gain or loſe according as the arc of theſe arches is leſs or greater than the ſecond. Thus, if a clock keeps time when the pendulum vibrates in an arch of 3°, it will loſe $10\frac{1}{2}$ ſeconds daily in an arch of 4 degrees. For $\overline{4^2 - 3^2} \times \frac{1}{4} = 7 \times \frac{1}{4} = 10\frac{1}{2}$ ſeconds. The length of a pendulum rod increaſes with heat; and the quantity of expanſion anſwering to any given degree of heat is experimentally found by means of a pyrometer (ſee Pyrometer;) but the degree of heat in any given time is ſhown by a thermometer: that inſtrument ſhould be placed within the clock at a height nearly equal to that of the centre of the pendulum; and its height, for this purpoſe, ſhould be examined at leaſt once a day. By a table conſtructed to exhibit the daily quantity of acceleration or retardation of the clock anſwering to every probable height of the thermometer, the correſponding correction may be obtained. It is alſo neceſſary to obſerve, that the mean height of the thermometer during the interval is to be uſed. In Six's thermometer this mean may be eaſily obtained; but in thermometers of the common conſtruction it will be more difficult to find this mean. It has been found, by repeated experiments, that a braſs rod equal in length to a ſecond pendulum will expand or contract one 1000dth part of an inch by a change of temperature of one degree in Fahrenheit's thermometer; and ſince the times of vibration are in a ſubduplicate ratio of the lengths of the pendulum, hence an expanſion or contraction of one 1000dth part of an inch will anſwer nearly to one ſecond daily: therefore a change of one degree in the thermometer will occaſion a difference in the rate of the clock equal to one ſecond daily. Whence, if the clock be ſo adjuſted as to keep time when the thermometer is at 55°, it will loſe 10 ſeconds daily when the thermometer is at 65°, and gain as much when it is at 45°. Hence the daily variation of the rate of the clock from ſummer to winter will be very conſiderable. It is true indeed that moſt pendulums have a nut or regulator at the lower end, by which the bob may be raiſed or lowered a determinate quantity; and therefore, while the height of the thermometer is the ſame, the rate of the clock will be uniform. But ſince the ſtate of the weather is ever variable, and as it is impoſſible to be raiſing or lowering the bob of the pendulum at every change of the thermometer, therefore the correction formerly mentioned is to be applied. This correction, however, is in ſome meaſure liable to a ſmall degree of uncertainty; and in order to avoid it altogether, ſeveral contrivances have been propoſed by conſtructing a pendulum of different materials, and ſo diſpoſing them that their effects may be in oppoſite directions, and thereby counterbalance each other; and thus the pendulum will continue of the ſame length. See N° 6, 7, 8.

(3.) Pendulum, Angular, is formed of two pieces or legs like a ſector, and is ſuſpended by the angular point. This pendulum was invented with a view to diminiſh the length of the common pendulum, but at the ſame time to preſerve or even increaſe the time of vibration. In this pendulum, the time of vibration depends on the length of the legs, and on the angle contained between them conjointly, the duration of the time of vibration increaſing with the angle. Hence a pendulum of this conſtruction may be made to oſcillate in any given time. At the lower extremity of each leg of the pendulum is a ball or bob as uſual. It may be eaſily ſhown, that in this kind of a pendulum, the ſquares of the times of vibration are as the ſecants of half the angle contained by the legs: hence if a pendulum of this conſtruction vibrates half ſeconds when its legs are cloſe, it will vibrate whole ſeconds when the legs are opened, ſo as to contain an angle equal to 151° 2½'.

(4.) Pendulum, Conical, or Circular, is ſo called from the figure deſcribed by the ſtring or ball of the pendulum. This pendulum was invented by Mr Huygens, and alſo claimed by Dr Hook. To underſtand the principles of this pendulum, it will be neceſſary to premiſe the following lemma, *viz.* the times of all the circular revolutions of a heavy globular body, revolving within an inverted hollow paraboloid, will be equal whatever be the radii of the circles deſcribed by that body. To conſtruct the pendulum, therefore, ſo that its ball may always deſcribe its revolutions in a paraboloid ſurface, it will be neceſſary that the

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rod of the pendulum be flexible, and that it be fuſpended in ſuch a manner as to form the evolute of the given parabola. Hence, let EH (*fig.* 9.) be an axis perpendicular to the horizon, having a pinion at K moved by the laſt wheel in the train of the clock; and a hardened ſteel point at H moving in an agate pivot, to render the friction as free as poſſible. Now, let it be required that the pendulum muſt perform each revolution in a ſecond: then the parabolic ſurface it moves in muſt be ſuch whoſe *latus rectum* is double the length of the common half ſecond pendulum. Let O be the focus of the parabola MEC, and biſect the *latus rectum*: and make AE=MO=EC=the length of a common half ſecond pendulum. At the point A of the vertex, let a thin plate AB be fixed at one end, and at the other end B let it be faſtened to a bar or arm BD perpendicular to DH, and to which it is fixed at the point D. The figure of the plate AB is that of the evolute of the given parabola MEC. The equation of this evolute, being alſo that of the ſemicubical parabola, is $\frac{27}{320}x^2=y^3$.—Let $\frac{27}{160}p=P$; then $Px^2=y^3$, and in the focus $P=2y$. In this caſe $2x^2=y^3=\frac{1}{4}P^3$: hence $x^2=\frac{1}{8}P^3$, and $x=P\sqrt{\frac{1}{8}}=\frac{27}{320}x\sqrt{\frac{1}{8}}$=the diſtance of the focus from the vertex A.—By aſſuming the value of x, the ordinates of the curve may be found; and hence it may be eaſily drawn. The ſpring of the pendulum muſt be of ſuch a length that when one end is fixed at B, it may be over the plate AB, and then being perpendicular from it, ſo that the centre of the ball may be at E when at reſt. Now, the verge EH being put in motion, the ball of the pendulum will begin to gyrate, and thereby receive a certain force which will carry it out from the axis to ſome point F, where it will circulate for 1" of time ſeconds, according as the line AE is 39 inches, 39 inches, and 39 inches to it. One advantage ſuppoſed by a clock having a pendulum of this conſtruction is, that the ſame force will always cauſe the pendulum to deſcribe the ſame arch, without being affected by the variation of the common circular and the cycloidal vibrations.

(*e*) PENDULUM, *Ellis*. The expanſion or contraction of rods of metal or wood by heat or cold, by change of the atmoſphere, is ſo ſmall that it is hard to make uſe of good pendulum rods. The wood called *lignum vitæ* is ſaid to be beſt. It is ſaid to be true, that the previous boiling, waxing, painting, or ſoaking of thoſe woods in any melted matter, only ſerves to ſpoil the property that renders them valuable. They muſt be barely rubbed on the outſide with wax and a cloth. To prevent the ill conſequences of heat and cold, both muſt be taken away.

(*f*) PENDULUM, COMPOUND, is an aſſemblage contrived for the ſame purpoſe as above. (*fig.* 2. Plate of clocks), this pendulum is compoſed of two ſorts of rods, as iron, ſteel, or brass; being ſo expanded, that the effect of one ſort of rods counteracts that of the other ſort; and therefore, if they are properly adjuſted to each other, the vibrations of the pendulum will always be equal in all [illegible]. *Fig.* 7. repreſents a gridiron pendulum compoſed of nine rods, ſteel and brass alternately. The two outer rods, AE, CD, which are of ſteel, are faſtened to the croſs piece AC, BD by means of pins. The next two rods, EF, GH, are of brass, and are faſtened to the croſs bar FD, and to the ſecond upper bar LG. The two following rods are of ſteel, and are faſtened to the croſs bars FG and IK. The two rods adjacent to the central rod being of brass are faſtened to the croſs pieces IK and LM; and the central rod, to which the ball of the pendulum is attached, is ſuſpended from the croſs piece LM, and paſſes freely through a perforation in each of the croſs bars IK, BD. From this diſpoſition of the rods it is evident that, by the expanſion of the extreme rods, the croſs piece BI and the two rods attached to it, will deſcend: but ſince their rods are expanded by the ſame heat the croſs piece LG will conſequently be raiſed and therefore alſo the two next rods; but becauſe theſe rods are alſo expanded, the croſs bar IK will deſcend; and by the expanſion of the two next rods, the piece LM will be raiſed a quantity ſufficient to counteract the expanſion of the central rod. Whence it is obvious, that the effect of the ſteel rods is to increaſe the length of the pendulum in hot weather, and to diminiſh it in cold weather, and that the braſs rods have a contrary effect upon the pendulum. The effect of the brass rods muſt, however, be equivalent not only to that of the ſteel rods, but alſo to the part above the frame and plate, which connects it with the cock and to that part between the lower part of the frame and the centre of the ball.

PENDULUM, MERCURIAL, was invented by the celebrated Mr George Graham. In this, the rod of the pendulum is a hollow tube, in which a certain quantity of mercury is put. Mr Graham left with a glaſs tube, and the clock to which it was applied was placed in the moſt expoſed part of the houſe. It was kept conſtantly going, without having the hands or pendulum altered, from the 5th of June 1722 to the 14th of October 1726, and its rate was determined by tranſits of fixed ſtars. Another clock made with extraordinary care, having a pendulum about 60 lb. weight, and not vibrating above one degree and a half from the perpendicular, was placed beſide the former, the mere reaſon to compare them with each other, and that they might both be equally expoſed. The reſult of all the obſervations was this, that the irregularity of the clock with the quickeſt pendulum exceeded not, when greateſt, a [illegible] part of that of the other clock with the common pendulum, but for the greateſt part of the year not above an eighth or ninth part; and even this quantity would have been leſſened, had the column of mercury been a little ſhorter: for it was found affected a little the contrary way from the other clock, going faſter with heat and ſlower with cold. To confirm this experiment [illegible] beginning of July 1723 Mr [illegible] heavy pendulum from [illegible] another with mercury [illegible] that inſtead of [illegible] and varniſhed [illegible] injured by [illegible]

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afterwards, and found it about the same degree of exactness as the other.

(6.) PENDULUM, M. THIOUT's. Another excellent contrivance for the same purpose is described by M. Thiout a French author on clockmaking. Of this pendulum, somewhat improved by Mr Crosthwaite, watch and clockmaker, Dublin, we have the following description in the *Transactions of the Royal Irish Academy*, 1788.—" A and B (*fig.* 1) are two rods of steel forged out of the same bar, at the same time, of the same temper, and in every respect similar. On the top of B is formed a gibbet C; this rod is firmly supported by a steel bracket D, fixed on a large piece of marble E, firmly set into the wall F, and having liberty to move freely upwards between cross staples of brass, 1, 2, 3, 4, which touch only in a point in front and rear (the staples having been carefully formed for that purpose); to the other rod is firmly fixed by its centre the lens G; of 24 pounds weight, though it should in strictness be a little below it. The pendulum is suspended by a short steel spring on the gibbet at C; all which is entirely independent of the clock. To the back of the clock-plate I, are firmly screwed two cheeks nearly cycloidal at K, exactly in a line with the centre of the verge L. The maintaining power is applied by a cylindrical steel-stud, in the usual way of regulators, at H. Now, it is very evident, that any expansion or contraction that takes place in either of these exactly similar rods, is instantly counteracted by the other; whereas in all *compensation* pendulums composed of different materials, however just calculation may seem to be, that can never be the case, as not only different metals, but also different bars of the same metal that are not manufactured at the same time, and exactly in the same [illegible], are found by a good pyrometer to differ [illegible] in their degrees of expansion and contraction, a very small change affecting one and not the other." Theory has pointed out several other [illegible], known by the names of *Elliptic, Horizontal, Rotulary*, &c. pendulums. These, however, have not as yet attained that degree of perfection as to supplant the common pendulum. Besides the use of the pendulum in measuring time, it has also been suggested to be a proper standard for measures of length. See MEASURE.

PENE, a river of Pomerania, in the isle of Usedom, which runs into the Baltic, at Penemunder.

PENEA. See PENÆA.

PENEDONE, a town of Portugal, in Beira; [illegible] NE. of Viseu.

PENELLA, a town of Portugal, in Beira, 15 [illegible] SE. of Coimbra.

(1.) PENELOPE, in fabulous history, the daughter of Icarus, who married Ulysses, by whom she had Telemachus. During the absence of Ulysses, who was gone to the siege of Troy, [illegible] 20 years from his dominions [illegible] charmed with P[illegible]

(II.) PENELOPE, in ornithology, a genus of birds of the order of *gallinæ*, the characters of which are: The beak is bare at the base; the head is covered with feathers; the neck is quite bare; the tail consists of twelve principal feathers; and the feet are for the most part bare. Linnæus, in the *Systema Naturæ*, enumerates six species.

1. PENELOPE CRAX CUMANENSIS, called by Latham, &c. YACOU. It is bigger than a common fowl. The bill is black; the head feathers are long, pointed, and form a crest, which can be erected at pleasure. The irides are of a pale rufous colour; the space round the eye is naked, similar to that of a turkey. It has also a naked membrane or kind of *wattle*, of a dull black colour. The blue skin comes forward on the bill, but is not liable to change colour like that of the turkey. The plumage has not much variation; it is chiefly brown, with some white markings on the neck, breast, wing coverts, and belly; the tail is composed of twelve feathers, pretty long, and even at the end; the legs are red. This species inhabits Cayenne, but is a very rare bird, being met with only in the inner parts, or about the Amazons country, though in much greater plenty up the river Oyapoc, especially towards Camoupi; and indeed those which are seen at Cayenne are mostly tame ones, for it is a familiar bird, and will breed in that state, and mix with other poultry. It makes the nest on the ground, and hatches the young there, but is at other times mostly seen on trees. It frequently erects the crest, when pleased, or taken notice of, and likewise spreads the tail upright like a fan, in the manner of the turkey. It has two kinds of cry; one like that of a young turkey, the other lower and more plaintive; the first of these is thought by the Indians to express the word *couyovoit*, the other *yacou*.

2. PENELOPE MARALIA, *the marail*, is about the size of a fowl, and shaped somewhat like it. The bill and irides are blackish; the space round the eye is bare, and of a pale red; the chin, throat, and fore part of the neck, are scarcely covered with feathers; but the throat itself is bare, and the membrane elongated to half an inch or more; both this and the skin round the eyes change colour, and become deeper and thicker when the bird is irritated. The head feathers are longish, so as to appear like a crest when raised up, which the bird often does when agitated; at which time it also erects those of the whole body; and so disfigures itself as to be scarce known; the general colour of the plumage is a [illegible] black; the fore part of the neck is tipped with white; the wings are short; the tail is [illegible] of 12 f[illegible] which are even at [illegible] ut can be lifted [illegible] turkey; the [illegible] he claws are [illegible] a collection [illegible] be- [illegible] the

the tail is 11 inches long, and rounded at the end; the quills juſt reach beyond the rump; the legs are brown, and the claws hooked. This ſpecies is common in the woods of Guiana, at a diſtance from the ſea, though it is leſs known than could be imagined; and generally found in ſmall flocks, except in breeding time, when it is only ſeen by pairs, and then frequently on the ground, or on low ſhrubs; at other times on high trees, where it roofts at night. The female makes her neſt on ſome low bufhy tree, as near the trunk as poſſible, and lays three or four eggs. When the young are hatched, they deſcend with their mother, after 10 or 12 days. The mother acts as other fowls, ſcratching on the ground like a hen, and brooding the young, which quit their nurſe the moment they can ſhift for themſelves. They have two broods in a year; one in Dec. or Jan. the other in May or June. The beſt time of finding theſe birds is morning or evening, being then met with on ſuch high trees whoſe fruit they feed on, and are diſcovered by ſome of it falling to the ground. The young birds are eaſily tamed, and ſeldom forſake the places where they have been brought up: they need not be houſed, as they prefer the rooſting on tall trees to any other place. Their cry is not inharmonious, except when irritated or wounded, when it is harſh and loud. Their fleſh is much eſteemed. Buffon ſuppoſes this bird to be the female of the yacou, or at leaſt a variety; but that this cannot be, the anatomical inſpection will at once determine. The windpipe of this bird has a ſingular conſtruction, paſſing along the neck to the entrance of the breaſt, where it ariſes on the outſide of the fleſh, and after going a little way downwards, returns, and then paſſes into the cavity of the lungs. It is kept in its place on the outſide by a muſcular ligament, which is perceivable quite to the breaſtbone. This is found to be the caſe in both male and female, and plainly proves that it differs from the yacou, whoſe windpipe has no ſuch circumvolution in either ſex. If this be the bird mentioned by Fermin, in his Hiſtory of Guiana, p. 176, he ſays that the creſt is cuneiform, and of a black and white colour; and obſerves that they are ſcarce at Surinam; but it does not ſeem quite certain whether he means this ſpecies or the yacou. Bancroft mentions a bird of Guiana by the name of *Marrodée*, which he ſays is wholly of a brownifh black: the bill the ſame; and the legs grey. Theſe, he ſays, are common, and make a noiſe not unlike the name given it, perching on trees. The Indians imitate their cry ſo exactly, as to lead to the diſcovery of the place the birds are in, by their anſwering it. The fleſh of them is like that of a fowl: it is therefore moſt likely the marail.

3. PENELOPE MELEAGRIS CRISTATA, called by Ray *penelope jacupeme*, and by Edwards the *guan*, or GUAN, is about the ſize of a fowl, being about two feet ſix inches long. The bill is two inches long, and of a black colour; the irides are of a dirty orange colour; the ſides of the head are covered with a naked purpliſh blue ſkin, in which the eyes are placed: beneath the throat, for an inch and a half, the ſkin is looſe, of a fine red colour, and covered only with a few hairs. The top of the head is furniſhed with long f thers, which the bird can erect as a creſt at pl ſure; the general colour of the plumage is brow iſh black, gloſſed over with copper in ſome ligh but the wing coverts have a greeniſh and vio gloſs. The quills moſtly incline to a purple lour; the fore part of the neck, breaſt, and b ly, are marked with white ſpots; the thighs, der tail coverts, and the tail itſelf, are brown black; the legs are red; the claws black. So of theſe birds have little or no creſt, and thence ſuppoſed to be females. They inha Braſil and Guiana, where they are often m tame. They frequently make a noiſe not u the word *jacu*. Their fleſh is much eſteemed

4. PENELOPE MELEAGRIS SATYRA, *the b ed pheaſant*. Latham calls it the horned turk This ſpecies is larger than a fowl, and ſmaller t a turkey. The colour of the bill is brown; noſtrils, forehead, and ſpace round the eyes covered with ſlender black hairy feathers; top of the head is red. Behind each eye the a fleſhy callous blue ſubſtance like a horn, w tends backward. On the fore part of the and throat, there is a looſe flap of a fine blue lour, marked with orange ſpots, the lower of which is beſet with a few hairs; down middle it is ſomewhat looſer than on the ſi being wrinkled. The breaſt and upper par the back are of a full red colour. The neck breaſt are inclined to yellow. The other par the plumage and tail are of a rufous bro marked all over with white ſpots, encompaſſed black. The legs are ſomewhat white, and niſhed with a ſpur behind each. A head of bird, Mr Latham tells us, was ſent to Dr H from Bengal, together with a drawing of the which was called *anpaul pheaſant*. It is a nati Bengal. See *plate* CCLXX.

5. PENELOPE PIPILE, or *crax pipile*, is b in the belly, and the back brown, ſtained black. The fleſh on the neck is of a green lour. It is about the bigneſs of the *yacou* N° 1.) and has a hiſſing noiſe. The head is ly black and partly white, and is adorned a ſhort creſt. The ſpace about the eyes, w are black, is white; the feet are red. It inh Guiana.

6. PENELOPE VOCIFERANS, *the vociferati nelope*. The bill of this bird is of a greeniſ lour: the back is brown, the breaſt green, the belly is of a whitiſh brown. Latham c the *crying curaſſaw*. It is about the bigneſs crow.

PENEMUNDER, a fortreſs of Pruſſian P rania, in the iſle of Uſedom, at the mouths Pene and the Oder. Lon. 14. 10. E. La 16. N.

PENEO, a river of European Turkey, runs into the Egean Sea, 20 miles E. of La anciently called PENEUS.

PENESTICA, a town of the Helvetii, bet Lacus Lauſonius and Salodurum; called P NISCA by Peutinger; thought now to be the capital of a ſmall territory in the Helvet public. *Antonine. Cluverius.*

* PENETRABILITY. *n. ſ.* [from *penetr* Suſceptibility of impreſſion from another bo

There being no mean between *penetrability* and impenetrability, paſſivity and activity, they being contrary. *Cheyne.*

* PENETRABLE. *adj.* [*penetrable*, Fr. *penetrabilis*, Lat.] 1. Such as may be pierced; ſuch as may admit the entrance of another body.—

Perce his only *penetrable* part. *Dryden.*

2. Receptive of moral or intellectual impreſſion.—

I am not made of ſtone,
But *penetrable* to your kind entreaties. *Shak.*

Let me wring your heart, for ſo I ſhall,
If it be made of *penetrable* ſtuff. *Shak.*

* PENETRAIL. *n. ſ.* [*penetralia*, Latin.] Inner or parts. Not in uſe.—The heart reſiſts putrefactive fumes, into whoſe *penetrails* to inſinuate ſome time muſt be allowed. *Harvey.*

PENETRALE, a ſacred room or chapel in private houſes, which was ſet apart for the worſhip of the houſehold gods among the ancient Romans. In temples alſo there were *penetralia*, or apartments of diſtinguiſhed ſanctity, where the images of the gods were kept, and certain ſolemn ceremonies performed.

* PENETRANCY. *n. ſ.* [from *penetrant*.] Power of entering or piercing.—The ſubtility, activity and *penetrancy* of its effluvia no obſtacle can keep or repel. *Ray.*

* PENETRANT. *adj.* [*penetrant*, Fr.] Having the power to pierce or enter; ſharp; ſubtile.—The aſcending ſteams may eaſily be caught and reduced into a *penetrant* ſpirit. *Boyle.*—The food is evacuated into the inteſtines, where it is further diſſolved and rendered ſo fluid and *penetrant*, that the finer part finds its way in at the ſtreight orifices of the lacteous veins. *Ray.*—

(1.) * To PENETRATE. *v. a.* [*penetro*, Lat. *penetrer*, Fr.] 1. To pierce; to enter beyond the ſurface; to make way into a body.—Marrow is, of all other oily ſubſtances, the moſt *penetrating*. *Arbuthnot.* 2. To affect the mind. 3. To reach the meaning.—There ſhall we clearly ſee the uſes of thoſe things, which here were too ſubtile for us to *penetrate*. *Ray.*

(2.) * To PENETRATE. *v. n.* 1. To make way.—

Court virtues bear, like gems, the higheſt rate
Where beav'n's influence ſcarce can *penetrate*. *Pope.*

2. To make way by the mind.—If we reach no further than metaphor, we are not yet *penetrated* into the inſide and reality of the thing. *Locke.*

* PENETRATION. *n. ſ.* [*penetration*, Fr. from *penetrate*.] 1. The act of entering into any body.—

It warms
The univerſe, and to each inward part
With gentle *penetration* though unſeen
Shoots inviſible virtue. *Milton.*

Mental entrance into any thing abſtruſe.—A penetration into the abſtruſe difficulties and depths of modern algebra and fluxions, is not worth the labour of thoſe who deſign either of the three mentioned profeſſions. *Watts.* 3. Acuteneſs; ſagacity.—The proudeſt admirer of his own parts muſt conſult with others, though of inferior capacity and *penetration*. *Watts.*

* PENETRATIVE. *adj.* [from *penetrate*.] 1. Entering; ſharp; ſubtile.—Let not the air be too groſs, nor too *penetrative*. *Wotton.* 2. Acute; ſagacious; diſcerning.—

O thou, whoſe *penetrative* wiſdom found
The ſouth ſea rocks and ſhelves. *Swift.*

3. Having the power to impreſs the mind.—

His face ſubdu'd
To *penetrative* ſhame. *Shak.*

* PENETRATIVENESS. *n. ſ.* [from *penetrative*.] The quality of being penetrative.

PENEUS, a river which riſes in Mount Pindus, and runs through the middle of Theſſaly, from W. to E. into the Sinus Thermaicus, between Olympus and Oſſa, near Tempe of Theſſaly, *Ovid, Val. Flaccus, Strabo.*

(1.) * PENGUIN. *n. ſ.* [*anſer magellanicus*, Lat.] 1. A bird. This bird was found with this name, as is ſuppoſed, by the firſt diſcoverers of America; and *penguin* ſignifying in Welſh a white head, and the head of this fowl being white, it has been imagined, that America was peopled from Wales; whence *Hudibras*:—

Britiſh Indians nam'd from *penguins*.

—*Grew* gives another account of the name, deriving it from *pinguis*, Lat. *fat*; but is, I believe, miſtaken.—The *penguin* is ſo called from his extraordinary fatneſs: for though he be no higher than a large gooſe, yet he weighs ſometimes 16lb.; his wings are extreme ſhort and little, altogether unuſeful for flight, but by the help whereof he ſwims very ſwiftly. *Grew's Muſæum.* 2. A fruit.—The *penguin* is very common in the Weſt Indies, where the juice of its fruit is often put into punch, being of a ſharp acid flavour; there is alſo a wine made of the juice of this fruit, but it will not keep good long. *Miller.*

(2.) PENGUIN, in botany, (§ 1. *Def.* 1.) or WILD ANANAS, is a ſpecies of Bromelia. See BROMELIA.

(3.) PENGUIN, in ornithology. See PINGUIN.

(4—6.) PENGUIN, or } in geography, 3 iſlands,
PENGUIN ISLAND, } ſo named from the birds: viz. 1. near the Cape of Good Hope; a little N. of Table Bay: 2. near the coaſt of New Holland, at the entrance of Adventure Bay: 3. ten miles E. of the S. coaſt of Newfoundland. Lon. 56. 45. W. Lat. 50. 5. N.

(7, 8.) PENGUIN ISLAND and BAY, an iſland and bay of Patagonia, 182 miles N. of Port St Julian. Lat. 47. 48. N.

PENHA GARCIA, a town of Portugal, in Beira; 7 miles S. of Alfayates, and 9 E. of Caſtel Branco. Lon. 11. 57. E. Ferro. Lat. 39. 50. N.

PENICHE, a ſea port town of Portugal, with a fort, in Eſtremadura, on a peninſula in the Atlantic; containing 2800 inhabitants. It is 39 miles NNW. of Liſbon. Lon. 9. 5. E. Lat. 39. 16. N.

PENICILLUS, among ſurgeons, is uſed for a tent to be put into wounds or ulcers.

PENICK, a town of Upper Saxony, in Miſnia, on the Multe, 8 miles E. of Altenburg. Lon. 12. 44. E. Lat. 50. 59. N.

(1.) PENJEKOREH, a town of Aſia, in Cabul; 8 miles W. of Maſhangur.

(2.) PENJEKOREH, a river of Aſia, which runs into the Sewad; 5 miles S. of the town, N° 1.

PENIEL, or PENUEL, a city beyond Jordan, near the ford or brook Jabbok, where Jacob wreſtled with an angel. (See Gen. xxxii. 24, &c.) The city

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city, built afterwards in this place, was given to the tribe of Gad. Gideon, returning from the purſuit of the Midianites, overthrew the tower of Peniel, (Judges viii. 17), and put all the men of the city to death, for having refuſed bread to him and his people, and having anſwered him in a very inſulting manner. Jeroboam I. rebuilt Peniel, (1 Kings xii. 25.) and Joſephus ſays, that he built a palace in it.

PENIG, or } a town and lordſhip of Upper
PENIGK, } Saxony, in Schonberg; with a pottery and woollen manufacture; 38 miles W. of Dreſden, and 28. SSE. of Leipſic.

PENINGTON, Iſaac, a celebrated Engliſh Quaker, born in 1617. He was an early convert of George Fox; and both preached and wrote in defence of his ſyſtem. Under the perſecuting ſpirit of that age, he was ſeveral times impriſoned; altho' he was of a meek, quiet, and philanthropic ſpirit, and very much beloved. He died at Goodneſtone in Suſſex, in 1679.

PENINNAH, the ſecond wife of Elkanah, the father of Samuel. Her fertility, and Hannah's barrenneſs, are recorded in 1 Sam. i.; with ſeveral intereſting circumſtances, which ſhow the folly and inconvenience of polygamy.

(1.) * PENINSULA. *n. ſ.* [Lat. *pene inſula*; *peninſule*, Fr.] A piece of land almoſt ſurrounded by the ſea, but joined by a narrow neck to the main. —Aſide of Milbrook lieth the *peninſula* of Inſwork. *Carew.*

(2.) PENINSULA. See *Plate* CLXIV.

* PENINSULATED. *adj.* [from *peninſula*.] Almoſt ſurrounded by water.

PENIS. See ANATOMY, § 312.

PENISCOLA, a town of Spain in Valencia, on a high promontory, ſurrounded on 3 ſides by the Mediterranean; 60 miles N. of Valencia, and 195 E. of Madrid. Lon. 1. 0. E. Lat. 40. 29. N.

PENISHEHR, a town of Aſia, in Cabul, 46 miles N. of Cabul. Lon. 68. 24. E. Ferro. Lat. 35. 16. N.

(1.) * PENITENCE. *n. ſ.* [*penitence*, Fr. *pœnitentia*, Lat.] Repentance; ſorrow for crimes; contrition for ſin, with amendment of life or change of the affections.—

Death is deferr'd, and *penitence* has room
To mitigate, if not reviſe the doom. *Dryd.*

(2.) PENITENCE is ſometimes uſed for a ſtate of repentance, and ſometimes for the act of repenting. See REPENTANCE. It is alſo uſed for a diſcipline, or puniſhment attending repentance; more uſually called PENANCE. It alſo gives title to ſeveral religious orders, conſiſting either of converted debauchees, and reformed proſtitutes, or of perſons who devote themſelves to the office of reclaiming them. Of this latter kind are theſe:

(3.) PENITENCE OF ST MAGDALEN, AT PARIS, CONGREGATION OF, owed its riſe to the preaching of F. Tiſſeran, a Franciſcan, who converted a number of courtezans about the year 1492. Louis duke of Orleans gave them his houſe for a monaſtery; or rather, as appears by their conſtitutions, Charles VIII. gave them the hotel called the *Bochaigne*, whence they were removed to St George's chapel, in 1572. By virtue of a brief of Pope Alexander, Simon biſhop of Paris, in 1497, drew them up a body of ſtatutes, and gave them the rule of St Auguſtine. It was neceſſary, before a woman co be admitted, that ſhe had firſt committed the of the fleſh. None were admitted who were ab 35 years of age. Till the beginning of the century, none but penitents were admitted; ſince its reformation by Mary Alvequin, in 1 none have been admitted but maids, who, h ever, ſtill retain the ancient name penitents.

(4.) PENITENCE OF ST MAGDALEN, ORDER eſtabliſhed about the year 1272 by one Bern a citizen of Marſeilles, who devoted himſelf to work of converting the courtezans of that Bernard was ſeconded by ſeveral others; forming a kind of ſociety, were at length ere into a religious order by Pope Nicholas III. der the rule of St Auguſtine. F. Geſnay that they alſo made a religious order of the tents, or women they converted, giving them ſame rules and obſervances which they themſ kept.

(1.) * PENITENT. *adj.* [*pœnitens*, Lat.] penitant; contrite for ſin; ſorrowful for paſt greſſions, and reſolutely amending life.—

Much it joys me
To ſee you become ſo *penitent*.
Nor in the land of their captivity
Humbled themſelves, or *penitent* beſought
The God of their forefathers.
Provoking God to raiſe them enemies;
From whom as oft he ſaves them *penitent*.
The proud he tam'd, the *peniten* the ch

(2.) * PENITENT. *n. ſ.* 1. One ſorrowful f —Concealed treaſures ſhall be brought in by the induſtry of converted *penitents*. *Ba* The *penitent* conquers the temptations of ſin in full force. *Rogers.* 2. One under cenſure church, but admitted to penance.—The Cat mens and *penitents* were admitted to the and pſalms, and then excluded. *Stilling.* One under the direction of a confeſſor.

(3.) PENITENTS, an appellation given t tain fraternities of penitents diſtinguiſhed different ſhape and colour of their habits. are ſecular ſocieties, who have their rules, ſt and churches, and make public proceſſions their particular croſſes or banners. Of there are more than 100; the chief of whi 1. the *white penitents*, of which there are ſeve ferent ſorts at Rome, the moſt ancient of was conſtituted in 1264: the brethren of t ternity every year give portions to a certain ber of young girls, in order to their being m their habit is a kind of white ſackcloth, a the ſhoulder is a circle, in the middle of w a red and white croſs. 2. *Black peniten* chief of which are the brethren of mercy, ted in 1488 by ſome Florentines, to aſſiſt uals during their impriſonment, and at their on the day of execution, they walk in pro before them, ſinging the 7 penitential pſal the litanies; and after they are dead, the them down from the gibbet and bury them habit is black ſackcloth. There are others buſineſs it is to bury ſuch perſons as are dead in the ſtreets: theſe wear a death's h one ſide of their habit. There are alſo *blu red*, *green*, and *violet penitents*; remarkal

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little else but the different colours of their habits. Mabillon tells us, that at Turin there are a set of penitents kept in pay to walk through the streets in procession, and cut their shoulders with whips, &c.

(2.) PENITENTS, or CONVERTS OF THE NAME OF JESUS, a congregation of religious at Seville in Spain, consisting of women who had led a licentious life, founded in 1550. This monastery is divided into three quarters: one for professed religious; another for novices; a third for those who are under correction. When these last give signs of a real repentance, they are removed into the quarter of the novices, where, if they do not behave themselves well, they are remanded to their correction. They observe the rules of St Augustine.

(3.) PENITENTS OF ORVIETO, are an order of nuns, instituted by Antony Simoncelli, a gentleman of Orvieto in Italy. The monastery he built was at first designed for the reception of poor girls, abandoned by their parents, and in danger of losing their virtue. In 1662 it was erected into a monastery, for the reception of such as having abandoned themselves to impurity, were willing to consecrate themselves to God by solemn vows. Their rule is that of the Carmelites. These religious undergo no noviciate. All required is, that they continue a few months in the monastery in a secular habit; after which they are admitted to the vows.

(1.) * PENITENTIAL. *adj.* [from *penitence.*] Expressing penitence; enjoined as penance.—

I have done penance for contemning love,
Whose high imperious thoughts have punish'd me
With bitter fasts and *penitential* groans. *Shak.*

—Is it not strange, that a rational man should abuse leeks and garlick, and shed *penitential* tears at the smell of a deified onion? *South.*

(2.) * PENITENTIAL. *n. s.* [*penitenciel*, Fr. *penitentiale*, low Latin.] A book directing the degrees of penance.—The *penitentials* or book of penance contained such matters as related to the imposing of penance, and the reconciliation of the person that suffered penance. *Ayliffe.*

(3.) PENITENTIAL. See PENANCE. There are various penitentials, as the Roman penitential, that of the venerable Bede, that of Pope Gregory III, &c.

(1.) * PENITENTIARY. *n. s.* [*penitencier*, Fr. *penitentiarius*, low Latin.] One who prescribes the rules and measures of penance.—Upon the loss of Ulm, the duke's undoubted right, no *penitentiary*, though he had enjoined him never so strict penance to expiate his first offence, would have counselled him to have given over pursuit of his right, which he prosperously re-obtained. *Bacon.*—The great *penitentiary* with his counsellors prescribes the measure of penances *Ayliffe's Parergon.* 2. A penitent; one who does penance.—A prison surnamed John Northampton's liberty, who, for abusing the same in his unruly mayoralty of London, was condemned hither as a perpetual *penitentiary*. *Carew.*—To maintain a painful fight against the law of sin, is the work of the *penitentiary*. *Hammond.* 3. The place where penance is enjoined. *Ainsworth.*

(2.) PENITENTIARY, in the ancient Christian church, a name given to certain presbyters or priests, appointed in every church to receive the private confessions of the people, in order to facilitate public discipline, by acquainting them what sins were to be expiated by public penance, and to appoint private penance for such private crimes as were not proper to be publicly censured.

(3.) PENITENTIARY, at the court of Rome, is an office in which are examined and delivered out the secret bulls, graces, or dispensations, relating to cases of conscience, confessions, &c.

(4.) PENITENTIARY is also an officer, in some cathedrals, vested with power from the bishop to absolve, in cases reserved to him. The pope has his grand penitentiary, who is a cardinal, and the chief of the other penitentiary priests established in the church of Rome, who consult him in all difficult cases. He presides in the penitentiary, dispatches dispensations, absolutions, &c. and has under him a regent and 4 proctors, or advocates of the sacred penitentiary.

* PENITENTLY. *adv.* [from *penitent.*] With repentance; with sorrow for sin; with contrition.

PENK, a river of Staffordshire, which runs into the Sow; a mile below Stafford.

PENKEMAS, a cape on the W. coast of Wales, and N. point of Pembrokeshire, at the mouth of the Tivy, 4 miles below Cardigan.

* PENKNIFE. *n. s.* [*pen* and *knife.*] A knife used to cut pens.—Some schoolmen, fitter to guide *penknives* than swords, precisely stand upon it. *Bacon.*—We might as soon fell an oak with a *penknife*. *Holyday.*

PENKRIDGE, a town of Staffordshire, formerly large but now much reduced, and chiefly noted for its horse fairs, and a market on Tuesday. It is 6 miles S. of Stafford, and 129 NW. of London. Lon. 2. 0. W. Lat. 52. 54. N.

PENKUM. See PENCKUM.

PENLAU LENGAU, a river of Austria, which runs from lake Alben, into the Traun; 4 miles SW. of Wells.

PENLEE, a point or cape in the English Channel, on the S. coast of Cornwall, W. of the entrance into Plymouth Sound.

PENMAEN-MAWR, or PENMAN-MAWR, a mountain in Caernarvonshire, 1400 feet high. It hangs perpendicularly over the sea, at so vast a height, that few spectators are able to look down the dreadful steep.

* PENMAN. *n. s.* [*pen* and *man.*] 1. One who professes the act of writing. 2. An author; a writer.—The further consideration of these holy *penmen* will fall under another part of this discourse. *Addison.*—The descriptions, which the evangelists give, shew that both our blessed Lord and the holy *penmen* of his story were deeply affected. *Atterb.*

(1.) PENMARCH, a point or cape of France, on the W. coast, S. of Audierne bay; 15 miles SSE. of Audierne, and 18 SW. of Quimper. Lon. 13. 10. E. Ferro. Lat. 47. 46. N.

(2.) PENMARCH ROCKS, rocks or small islets, near the W. coast of France, and SE. coast of the department of Finisterre; E. of the above Cape.

(1.) PENN, Sir William, was born at Bristol in 1621, and inclined from his youth to maritime affairs. He was made captain at 21 years of age, rear-

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rear-admiral of Ireland at 23, vice-admiral of Ireland at 25, admiral to the Straits at 29, vice-admiral of England at 31, and general in the firſt Dutch war at 32. Returning in 1655, he was choſen repreſentative for the town of Weymouth; and in 1660 was made commiſſioner of the admiralty and navy, governor of the town and fort of Kinſale, vice-admiral of Munſter, and a member of that provincial council. In 1664, he was choſen great captain-commander under the duke of York, and diſtinguiſhed himſelf in an engagement againſt the Dutch fleet; after which he took leave of the ſea, but continued in his other employments till 1669. He died in 1670.

(2.) PENN, William, an eminent writer among the Quakers, and the founder and legiſlator of Pennſylvania, was the ſon of Sir William Penn, and was born at London in 1644. In 1660, he was entered a commoner of Chriſt-church, in Oxford; but having previouſly received an impreſſion from the preaching of one Thomas Loe a Quaker, withdrew with ſome other ſtudents from the national worſhip and held private meetings, where they preached and prayed among themſelves. This giving great offence to the heads of the college, Mr Penn, though but 16 years of age, was fined for nonconformity; and continuing his religious exerciſes, was at length expelled his college. Upon his return home, he was treated with great ſeverity by his father, who at laſt turned him out of doors; but his reſentment abating, he ſent him to France in company with ſome perſons of quality; where he continued a conſiderable time, and returned not only well ſkilled in the French language, but a polite and accompliſhed gentleman. About 1666, his father committed to his care a conſiderable eſtate in Ireland. But being found in one of the Quakers meetings in Cork, he, with many others, was thrown into priſon: on his writing to the earl of Orrery, however, he was ſoon diſcharged. But his father, being informed that he ſtill adhered to his opinions, ſent for him to England, and finding him inflexible to all his arguments, turned him out of doors a ſecond time. About 1668, he became a public preacher among the Quakers; and that year was committed cloſe priſoner to the Tower, where he wrote ſeveral treatiſes. Being diſcharged after 7 months impriſonment, he went to Ireland, where he alſo preached amongſt the Quakers. Returning to England, he was in 1670 committed to Newgate, for preaching in Gracechurch-ſtreet meeting-houſe, London; but being tried at the ſeſſions-houſe in the Old Bailey, he was acquitted. In Sept. 1670 his father died; and being perfectly reconciled to him, left him his paternal bleſſing and a plentiful eſtate. But his perſecutions were not yet at an end; for in 1671 he was committed to Newgate for preaching at a meeting in Wheeler-ſtreet, London; and during his impriſonment, which continued ſix months, he wrote ſeveral treatiſes. After his diſcharge, he went into Holland and Germany; and in the beginning of 1672, married and ſettled with his family at Rickmanſworth in Hertfordſhire. The ſame year he publiſhed ſeveral pieces; particularly one againſt Reeves and Muggleton. In 1677, he again travelled into Holland and Germany to propagate his opinions; and had frequent converſations with the princeſs Elizabeth, daughter to the queen of Bohemia, and ſiſter to the princeſs Sophia, mother to K. George I. In 1681, K Charles II. in conſideration of the admiral's ſervices, and ſeveral debts due to him from the crown at his deceaſe granted William Penn and his heirs the province lying on the W. ſide of the Delaware, which thence obtained the name of PENNSYLVANIA. Upon this Penn publiſhed a brief account of the province, with the king's patent: and propoſing an eaſy purchaſe of lands, and good terms of ſettlement for ſuch as were inclined to remove thither many went over. But Penn, juſtly conſidering that no European ſovereign had a right to diſpoſe of the property of other nations, however ſavage, without ſome compenſation, appointed commiſſioners to purchaſe the land he had received from the king of the native Indians, and concluded a treaty with them. The city of Philadelphia was planned and built; and he himſelf drew up the fundamental conſtitutions of Pennſylvania in 24 articles. In 1681, he was elected F. R. S. and in 1682 embarked for Pennſylvania, where he continued about two years, and returned to England in Auguſt 1684. Upon the acceſſion of King James II. he was taken into a great degree of favour, which expoſed him to the imputation of being a Papiſt; but from which he fully vindicated himſelf. However, upon the Revolution, he was examined before the council in 1688, and obliged to give ſecurity for his appearance on the firſt day of next term, which was afterwards continued. He was ſeveral times diſcharged and examined, and at length warrants being iſſued out againſt him, he was obliged to conceal himſelf for two or three years. Being at laſt permitted to appear before the king and council, he repreſented his innocence ſo effectually that he was acquitted. In April 1699, he, with his wife and family, embarked for Pennſylvania; whence he returned in 1701, to vindicate his proprietary right, which had been attacked during his abſence. Upon Q. Anne's acceſſion, he was in great favour, and was often at court. But, in 1707, he was involved in a law ſuit with the executors of a perſon who had been formerly his ſteward; and, though many thought him aggrieved, the court of chancery did not relieve him; upon which account he was obliged to live within the rules of the Fleet for ſeveral months, till the matter in diſpute was accommodated. He died in 1718. Penn's friendly and pacific manner of treating the Indians produced in them an extraordinary love for him and his people; ſo that they have maintained a perfect amity with the Anglo-Americans in Pennſylvania ever ſince. He was the greateſt bulwark of the Quakers: in whoſe defence he wrote numberleſs pieces. Beſides the above works, he wrote a great number of others; the moſt eſteemed of which are, 1. Primitive Chriſtianity revived. 2. Defence of a paper, intitled *Goſpel Truths, againſt the Exceptions of the Biſhop of Cork*. 3. Perſuaſive to Moderation. 4. Good Advice to the Church of England, Roman Catholic, and Proteſtant Diſſenter. 5. The Sandy Foundation ſhaken. 6. No Croſs, no Crown. 7. The great Caſe of Liberty of Conſcience debated. 8. The Chriſtian Quaker, and his Teſtimo-

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Teſtimony ſtated and vindicated. 9. A diſcourſe of the general Rule of Faith and Practice, and Judge of controverſy. 10. England's Preſent Intereſt conſidered. 11. An Addreſs to Proteſtants. 12. Reflections and Maxims. 13. Advice to his Children. 14. Riſe and Progreſs of the People called *Quakers*. 15. A Treatiſe on Oaths. Moſt of theſe have paſſed through ſeveral editions, ſome of them many. The letters between William Penn and Dr Tillotſon, and William Penn and William Popple, Eſq; together with Penn's letters to the princeſs Elizabeth of the Rhine, and the counteſs of Hornes, as alſo one to his wife on his going to Pennſylvania, are inſerted in his works, which were firſt collected and publiſhed in 1 vols folio; and the parts ſince ſelected and abridged into 1 vol. folio, are very much and deſervedly admired for the good ſenſe they contain.

(3.) PENN, FORT, a fort of Pennſylvania, in Northampton county, at the mouth of a ſmall river, which runs into the Delaware on the W. ſide; 70 miles N. of Philadelphia.

(1.) PENNA, in zoology. See PINNA.

(2.) PENNA DI BILLI, a town of Italy, in Urbino; 11 miles SW. of St Marino, and 14 WNW. of Urbino.

* PENNACHED. *adj.* [*pennachè* Fr.] Applied to flowers when the ground of the natural colour of their leaves is radiated and diverſified neatly without any confuſion. *Trevoux.*—Carefully protect from violent rain your *pennached* tulips, covering them with matreſſes. *Evelyn.*

(1.) PENNAFLOR, a town of Spain, in Andaluſia; 10 miles N. of Exija, near the Xenil. Lon. 4. 11. W. Lat. 37. 44. N.

(2.) PENNAFLOR, a town of Spain, in Aſturias, on the Aſta; 14 miles SW. of Oviedo. Lon. 5. 54. W. Lat. 43. 15. N.

(1.) PENNANT, Thomas, Eſq. LL.D. F. R. S. &c. a late eminent Engliſh naturaliſt, born in Flintſhire, in 1726, and deſcended of a race of ancient Britons, who had ſettled in that country for many centuries. He was educated ſucceſſively at Wrexham, Fulham, and Oxford, where he graduated; and having made conſiderable proficiency in the claſſics, for ſome time ſtudied law. About this time, a preſent of *Willoughby's Ornithology*, gave him an attachment to Natural Hiſtory, which continued through life. After making a tour through Wales, Cornwall, and other parts of England, he travelled to the continent, and eſtabliſhed a correſpondence with ſeveral of the greateſt men of the age, particularly Count Buffon, Dr Pallas, Dr Haller, Linnæus, and Voltaire. On his return, he married, and had two children; but did not ſucceed to the family fortune till his 37th year, when he ſettled at Downing. His wife dying, he made another tour to the continent; where his reputation as a man of ſcience was now eſtabliſhed by his *Britiſh Zoology*, which was publiſhed in 4 vols. 4to. ſo early as 1750. About 1770, he ſet out on his Travels through Scotland; and, in 1771, publiſhed a moſt entertaining account of that *Tour*, in 3 vols. 4to. which gave univerſal ſatisfaction, and paſſed thro' ſeveral editions. After this tour, he penetrated to the Hebrides, and viſited Man. In 1776, he married his 2d wife, Miſs Moſtyn, ſiſter of Sir Roger Moſtyn. In 1778, he commenced the publication of his *Welch Tour*, in 2 vols. 4to. In 1782, he publiſhed his *Journey from Cheſter to London*, in one vol. 4to; and in 1784, his *Arctic Zoology*, an admirable work, highly eſteemed both at home and abroad. In 1790, he publiſhed another 4to vol. entitled *Of London*; and with it a *farewell addreſs* to the public; notwithſtanding which, he ſoon after publiſhed *The Natural Hiſtory of the pariſhes of Holywell and Downing*; in one vol. 4to. And even ſo late as 1797, his 71ſt year, he publiſhed *The View of Hindooſtan*, a ſplendid work in 2 vols. 4to. with 23 plates, admirably engraved. From his apology in the preface, theſe 2 vols. appear to be only part of a work of which the remaining vols. may ſtill be expected to be publiſhed. He alſo publiſhed the following papers in the *Philoſ. Tranſ.* 1. A Letter on an earthquake felt at Downing in 1753: 2. Another on Coralloid Bodies, (κοραλλοειδεις,) collected by him: and 3. Synopſis of Quadrupeds, 1771: 4. A pamphlet on the Militia: 5. A paper on the Turkey: and, 6. A vol. of Miſcellanies. Beſides being F. R. S. of London, he was a member of the Society of Antiquaries: F. R. S. of Upſal, in Sweden; a member of the American Philoſophical Society, and of the Anglo-Linnæan Society, &c. His ample fortune enabled him to keep a hoſpitable table; and to dedicate the profits of ſeveral of his works to charitable inſtitutions; particularly the Welch Charity School. He died at Downing in 1798, aged 72. He left ſeveral works in MS. entitled *Outlines of the Globe*, of which, the View of Hindooſtan compoſed the 14th and 15th vols. He was endued with a healthy frame of body, an open and intelligent aſpect, an active and chearful diſpoſition, and great vivacity. His heart was kind, benevolent, and charitable. He was candid and free from prejudices; and Scotland will ever venerate him, as the firſt traveller from the S. ſide of the Tweed, who viſited her, with no unfriendly ſpirit.

(2.) * PENNANT. *n. ſ.* [*pennon*, Fr.] 1. A ſmall flag, enſign or colours. 2. A tackle for hoiſting things on board. *Ainſworth.*

PENNAQUID, a cape of the United States, on the coaſt of Maine. Lon. 69. 27. W. Lat. 43. 47. N.

PENNAR, a river of Hindoſtan, which riſes in Myſore; croſſes the circar of Cuddapa and the Carnatic; and after watering Gooty, Gandicotta, Vellore, &c. falls into the bay of Bengal at Gangapatnam, 12 miles E. of Nellore.

PENNARE, a cape in the Engliſh Channel, on the S. coaſt of Cornwall; 6 miles WSW. of Deadman's Point.

(1.) PENNARTH BAY, a bay of Wales on the S. coaſt, in the Severn, at the mouth of the Tave below Cardiff.

(2.) PENNARTH POINT, a cape of Wales, which bounds Pennarth Bay on the S.

* PENNATED. *adj.* *pennatus*, Latin.] 1. Winged. 2. *Pennated*, amongſt botaniſts, are ſuch leaves of plants as grow directly one againſt another on the ſame rib or ſtalk; as thoſe of aſh and walnut-tree. *Quincy.*

PENNATULA, the SEA PEN, in natural hiſtory, a genus of zoophyte, which, though it ſwims

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about freely in the sea, approaches near to the gorgonia. This genus hath a bone along the middle of the inside, which is its chief support; and this bone receives the supply of its offeous matter by the same polype mouths that furnish it with nourishment. Linnæus reckons 7 species. See ZOOPHYTES. It partakes both of the animal and vegetable nature; but some suppose it to be nothing but a fucus or sea plant. It is certainly an animal, however, and as such is locomotive. Its body generally expands into processes on the upper parts, and these processes or branches are furnished with rows of tubular denticles; they have a polype head proceeding from each tube. The sea pen is distinguished from the corallines by this specific difference; corals, corallines, alcyonia, and all that order of beings, adhere firmly by their bases to submarine substances; but the sea pen either swims about in the water, or floats upon the surface. But there are other kinds of sea pens, or species of this animal, which have no resemblance to a pen: as,

1. PENNATULA DIGITALIS, or DIGITI-FORMIS, the *finger-shaped* sea pen. See *fig.* 8. *pl.* 272.

2. PENNATULA FILOSA of Linnæus. See *fig.* 5.

3. PENNATULA MIRABILIS. See *fig.* 7.

4. PENNATULA PAVONIS PISCIS, the feather of the peacock fish. See *fig.* 4.

5. PENNATULA PHOSPHOREA. Dr. Coote Molesworth sent one of these animals to the ingenious Mr Ellis, the author of many curious papers on the nature of corallines, which was taken in a trawl in 72 fathoms water, near the harbour of Brest, in France: the same species are frequently found in the ocean from the coast of Norway to the Mediterranean sea, sometimes at considerable depths, and sometimes floating on the surface. Mr Ellis describes that sent him, as follows: Its general appearance greatly resembles that of a quill feather of a bird's wing; (see *Plate* CCLXXII. *fig.* 1.) it is about 4 inches long, and of a reddish colour; along the back there is a groove from the quill part to the extremity of the feathered part, as there is in a pen; the feathered part consists of fins proceeding from the stem, as expressed in the figure. The fins move the animal backward and forward in the water, and are furnished with suckers or mouths armed with filaments, which appear magnified as *fig.* 2. There is no perforation at the bottom, and therefore Mr Ellis is of opinion, that the exuviæ of the animals upon which it feeds are discharged by the same apertures at which the food is taken in; and in this it is not singular, the same œconomy being observed in the Greenland polype, described by Mr Ellis in his Essay on Corallines. Each sucker has eight filaments, which are protruded when prey is to be caught; but at other times they are drawn back into their cases, which are furnished at the end with *spiculæ*, that close together round the entrance, and defend this tender part from external injuries. Dr Bohadsch of Prague had an opportunity of observing one of these animals alive in the water, and he gives the following account of what he saw: "A portion of the stem contracted, and became of a strong purple colour, so as to have the appearance of a ligature round it; this apparent ligature, or zone, moved upwards and downwards successively through the whole length of the stem, as well the feathered as the naked part; it began at the bottom, and moving upwards to the other extremity, it there disappeared, and at the same instant appeared again at the bottom, and ascended as before; but as it ascended through the feathered or pinnated part, it became paler. When this zone is much constricted, the trunk above it swells, and acquires the form of an onion; the constriction of the trunk gives the colour to the zone, for the intermediate parts are paler in proportion as the zone becomes deeper. The end of the naked trunk is sometimes curved like a hook; and at its extremity there is a sinus or chink, which grows deeper while the purple ring is ascending, and shallower as it is coming down. The fins have four motions, upward and downward, and backward and forward, from right to left, and from left to right. The fleshy filaments or claws, move in all directions: and with the cylindrical part from which they proceed, are sometimes protruded from the fins, and sometimes hidden with them. Upon dissecting the animal, the following phenomena were discovered. When the trunk was opened lengthwise, a saltish liquor flowed out of it, so viscid as to hang down an inch. The whole trunk of the stem was hollow, the outward membrane being very strong and about a tenth part of an inch thick: within this membrane appeared another much thinner, and between these two membranes, in the pinnated part of the trunk, innumerable little yellowish eggs, about the size of a white poppy seed, were seen floating in a whitish liquor; about the parts of the cavity within the inner membrane were filled by a kind of yellowish bone: this bone is about 2½ inches long, and $\frac{1}{10}$ of an inch thick in the middle it is four-square, but towards both ends it grows round and very taper, that end being finest which is next the pinnated part of the trunk. This bone is covered in its whole length with a clear yellowish skin, which at each end runs out into a ligament; one is inserted into the top of the pinnated trunk, and the other into the top of the naked trunk: by the help of the upper ligament, the end of the bone is either bent into an arch, or disposed in a straight line. The fins are composed of two skins; the outward one is strong and leathery, and covered over with a vast number of crimson streaks; the inner skin is thin and transparent: the suckers are also in the same manner composed of two skins, but the outward skin is something softer. Both the fins and suckers are hollow, so that the cavity of the suckers may communicate with those of the fins, as the cavity of the fins does with that of the trunk. Dr Shaw, in his *History of Algiers*, says that these animals are so luminous in the water that in the night the fishermen discover them swimming about in various depths of the sea by the light they give: From this extraordinary quality, Linnæus calls this species of the sea pen *pennatula phosphorea*, and remarks, after giving the synonymes of other authors, *Habitat in oceano fundum illuminans.* Of all the pennatulæ known, this feather-shaped one, or as it is called by others, the *silver sea pen* (*fig.* 1), is the lar-

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Plate CCLXXII.

Petrified animal bodies.

Fig. 4.

Fig. 8.

Fig. 6.

Fig. 2.

Fig. 3.

Fig. 5.

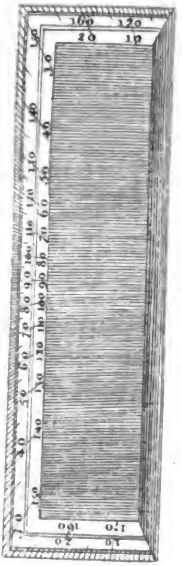
Fig. 7.

Fig. 10.

Fig. 9.

Protractor

Fig. 1.



Peppermint Tree

Fig. 11.

Fig. 12.

Fig. 14.

Pfophia Crepitans.

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p well as the moſt ſpecious in its appearance. It s of a beautiful ſilvery white, elegantly ſtriated o each of the feather-like proceſſes with lines or reaks of the deepeſt black. It is very rare, and s a native of the Indian ſeas. There is a very ne ſpecimen of this ſpecies in the Britiſh Mu-eum.

4. PENNATULA RENIFORMIS, the kidney-ſhap-d ſea pen. See *fig.* 3. The kidney-ſhaped ſea pen was diſcovered ſome time ago on the coaſt of South arolina, and ſent to Mr Ellis by John Gregg, q. of Charleſtown. It is of a fine purple our; the kidney part is about an inch from ad to end, and about half an inch wide in e narroweſt part; a tail proceeds from the iddle of the body, which is roundiſh, and out an inch long; is alſo full of rings like an rth worm, and along the middle both of the per and under part of it there is a ſmall groove ich runs from one end to the other, but there no perforation at either extremity. The upper rt of the body is convex, and about an inch ick; the whole ſurface is covered with ſmall ow ſtarry openings, through which little ſuck-g are protruded, each furniſhed with ſix tenta-la, or filaments, like what are obſerved on ſome ers; the under part of the body is quite flat, d is full of ramifications of fleſhy fibres, which, proceeding from the inſertion of the tail, as a mmon centre, branch out ſo as to communicate th the ſtarry openings on the exterior edge and per ſurface of the animal.

5. PENNATULA SAGITTA, the arrow penna-la. See *fig.* 6.

(1.) PENNE, a town of France, in the dep. of t and Garonne; 4½ miles E. of Villeneuve, and W. of Tournon.

(2.) PENNE, a town of France, in the dep. of rn; 13½ miles NNW. of Gaillac, and 21 NW. Alby.

PENNELHEUGH, a hill of Roxburghſhire, in ling pariſh; on the top of which are relics of ient camp.

PENNER. *n. ſ.* [from *pen*.] 1. A writer. 2. A caſe. *Ainſ.* So it is called in Scotland.

PENNERVAEN, a mountain of S. Wales, in ecknockſhire, a little S. of Brecknock.

PENNEWANG, a town of Germany, in Au-; miles N. of Schwanaſtadt.

(1.) PENNI, John Francis, born at Florence in 8, was the diſciple of Raphael, who obſerving s genius and integrity, intruſted his domeſtic cerns entirely to his management; by which he got the appellation of *il fatore*, or *the ſteward*. His genius was univerſal; but his great-ſkill was in painting landſcapes and build-: he was an excellent deſigner, and coloured oil, diſtemper, and freſco. He painted ures exquiſitely, and had ſuch happy talents, Raphael left him heir to his fortune in part-ip with Romano his fellow diſciple. Penni at Naples in 1528.

(2.) PENNI, Luke, brother of the above, work-in Genoa and other parts of Italy, with Del , who married his ſiſter; he went thence to nd, where he worked for Henry VIII. and employed by Francis I. at Fountainbleau; e at laſt devoted himſelf to engraving.

* PENNILESS. *adj.* [from *penny*.] Moneyleſs; poor; wanting money.

PENNINÆ ALPES, a diviſion of the Alps. (*Liv.* xxi. 38.) See ALPS, § 1.

PENNINGHAM, a pariſh of Scotland, in Wigtonſhire, 16 miles long from E. to W. and from 5 to 6½ broad. It is watered by the Cree; the ſoil is various, but in many parts very fertile. The population, in 1791, was 2009, increaſe 491, ſince 1755. The number of ſheep was 9840.

(1.) PENNINGTON, a town of New Jerſey, in Huntingdon county, 5 miles N. of Trenton, and 36 NE. by N. of Philadelphia.

(2, 3.) PENNINGTON, two ſmall towns of England: 1. in Hampſhire, near Ringwood: 2. in Lancaſhire, near Ulverton.

(1.) * PENNON. *n. ſ.* [*pennon*, Fr.] A ſmall flag or colour.—

They waved like a *pennon* wide diſpred.
Spenſer.

Harry ſweeps through our land
With *pennons* painted in the blood of Harfleur.
Shak.

High on his pointed lance his *pennon* bore,
His Cretan fight, the conquer'd Minotaur.
Dryden.

(2.) PENNON, a fort of Algiers, on an iſland before the harbour of that city.

(3.) PENNON DE VELEZ, a ſea port of Barbary, ſeated on a rock, in the Mediterranean, near Velez. It has a good harbour, and belongs to Spain. It is 75 miles E. of Ceuta. Lon. 4. 0. W. Lat. 35. 25. N.

(1.) PENNSBOROUGH, a townſhip of Pennſylvania, in Cheſter county.

(2.) PENNSBOROUGH, EAST, } two townſhips
(3.) PENNSBOROUGH, WEST, } of Pennſylvania, in Cumberland county.

PENNSBURY, a town of Pennſylvania, in Bucks county, on a creek of the Delaware; memorable for being the manor, which the celebrated William Penn reſerved to himſelf. Here he built a houſe, and planted gardens and orchards; which, with a great number of additional buildings, ſtill continue.

(1.) PENNSYLVANIA, one of the 17 United States of North America. It was founded by William Penn, the celebrated Quaker, in 1679. (See PENN, N° 2.)

(2.) PENNSYLVANIA, BOUNDARIES AND EXTENT OF. This State is bounded on the N. by New York and Lake Erie: E. by the Delaware river and bay, which ſeparate it from New Jerſey; S. by part of Virginia, Maryland, and Delaware; W. by part of Virginia, and the North Weſtern Territory, and NW. by part of Lake Erie. It lies in the form of a parallelogram; and comprehends 44,900 ſquare miles; being 288 miles long from E. to W. and 156 broad from N. to S. Lon. from 74.48 to 80. 8. W. Lat. from 39. 43. to 42. 0. N.

(3.) PENNSYLVANIA, CLIMATE, AND GENERAL APPEARANCE OF. The air is ſweet and clear. Autumn begins about the 20th Oct. and laſts till the beginning of Dec. when winter ſets in, which continues till March, and is ſometimes extremely cold and ſevere; but the air is generally dry and healthy. The Delaware, though very broad,

is

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is often frozen over. From March to June, (that is, in ſpring,) the weather is more inconſtant than in the other ſeaſons. In July, Auguſt, and Sept. the heats would be intolerable, if they were not mitigated by frequent cool breezes. The wind, during ſummer is generally SW.; but in winter blows for the moſt part from the NW. over the ſnowy mountains and frozen lakes of Canada, which occaſions the exceſſive cold during that ſeaſon. On the whole, the climate of this ſtate differs not materially from that of Connecticut, except that on the W. ſide of the mountains the weather is much more regular. The inhabitants never feel thoſe quick tranſitions from cold to heat, by a change of the wind from N. to S. as thoſe ſo frequently experience who live E. of the mountains and near the ſea. The hot S. winds get chilled by paſſing over the long chain of Allegany mountains. Among the Quakers, who are the oldeſt ſettlers, there are inſtances of longevity, occaſioned by their temperance and mode of living. There are fewer long-lived people among the Germans than among other nations, occaſioned by their exceſs of labour and low diet, as they live chiefly upon vegetables and watery food. The ſurface of the country, towards the coaſt, is flat, but riſes gradually to the Apalachian mountains on the W. Nearly one third of this ſtate is mountainous; particularly the counties of Bedford, Huntingdon, Cumberland, part of Franklin, Dauphin, and part of Bucks and Northampton, through which paſs, under various names, the numerous ridges and ſpurs, which collectively form *the great range of Allegany mountains*. There is a remarkable difference between the country on the E. and W. ſide of theſe mountains. Between theſe mountains and the lower falls of the rivers which run into the Atlantic, are ſeveral ranges of ſtones, ſand, earths, and minerals, in the utmoſt confuſion. Beds of ſtone, of vaſt extent, particularly of limeſtone, have their ſeveral layers broken in pieces, and the fragments thrown confuſedly in every direction. Between theſe lower falls and the ocean is a very extenſive collection of ſand, clay, mud, and ſhells, partly thrown up by the waves of the ſea, partly brought down by floods from the upper country, and partly produced by the decay of vegetable ſubſtances. The country W. of the Allegany mountains in theſe reſpects, is totally different. It is very irregular, broken, and variegated, but there are no mountains; and when viewed from the moſt weſtern ridge of the Allegany, it appears to be a vaſt extended plain. All the various ſtrata of ſtone appear to have lain undiſturbed in the ſituation wherein they were firſt formed. The layers of clay, ſand, and coal, are nearly horizontal. Scarcely a ſingle inſtance is to be found to the contrary. Every appearance, in ſhort, tends to confirm the opinion, that the original cruſt, in which the ſtone was formed, has never been broken up on the W. ſide of the mountains, as it evidently has been eaſtward of them.

(4.) PENNSYLVANIA, DIVISIONS OF. This State is divided into 23 counties; viz. Philadelphia, Cheſter, Delaware, Bucks, Montgomery, Berks, Lancaſter, Dauphin, Northampton, Luzerne, York, Cumberland, Northumberland, Franklin, Bedford, Huntingdon, Miffin, Westmoreland, Somerſet, Fayette, Waſhington, Allighany, and Lycoming. Theſe counties are ſubdivided into a great number of townſhips.

(5.) PENNSYLVANIA, GOVERNMENT AND CONSTITUTION OF. The preſent Conſtitution of this State was ratified June 12th 1792. By it, the ſupreme executive power is veſted in a governor, the legiſlative in a general aſſembly, conſiſting of a ſenate, and a houſe of repreſentatives. The governor is elected for 3 years, but cannot be continued longer than 9. A majority of votes decides the election. The repreſentatives are elected for one year; the ſenators for 4. The latter are divided into 4 claſſes, of which one goes out each year, and their ſeats are filled by new elections. Each county elects its own repreſentatives. The ſenators are elected in diſtricts aſſigned by the legiſlature. Once in 7 years there is to be an enumeration of the citizens. The number of ſenators and repreſentatives is to be fixed after each enumeration, by the legiſlature; and apportioned to the population of the ſeveral counties and diſtricts, according to the number of taxable citizens. There can be no fewer than 60 nor more than 100 repreſentatives. The number of Senators cannot be leſs than one 4th or greater than one 3d of the repreſentatives. The elections are made on the 2d Tueſ. of Oct. The General Aſſembly meets annually on the 1ſt Tueſ. of Dec. unleſs convened earlier by the governor. A majority of each houſe makes a quorum to do buſineſs; and a leſs number may adjourn from day to day, and compel members to attend. Each houſe chooſes its ſpeaker and other officers; judges the qualifications of its members, and fixes the rules of its proceedings. Impeachments are made by the Houſe of Repreſentatives and tried by the Senate. All bills for raiſing revenue muſt originate in the Lower Houſe, but the Senate may propoſe amendments. The Senators and Repreſentatives are free from arreſts, while attending the public buſineſs; except in caſes of treaſon, felony, and breach of the peace; and are not liable to be queſtioned reſpecting any thing ſaid in public debate. They are compenſated out of the public treaſury, from which no money can be drawn, but in conſequence of appropriation by law. The journals of both houſes are published weekly, and their doors kept open, unleſs the buſineſs requires ſecreſy. All bills which have paſſed both houſes, muſt be preſented to the governor. If he approve he muſt ſign them; if not, he muſt return them within 10 days, with his objections, to the houſe in which they originated. No bill ſo returned ſhall become a law, unleſs it be repaſſed by two 3ds of both houſes. The governor is commander in chief of the militia force; he may remit fines and forfeitures, and grant reprieves and pardons, except in caſes of impeachment; he may require information from all executive officers; he may, on extraordinary occaſions, convene the general aſſembly, and adjourn it, for any term not exceeding 4 months, in caſe the two branches cannot agree on the time themſelves. He muſt inform the General Aſſembly of the ſtate of the Commonwealth; and recommend ſuch meaſures as he ſhall judge expedient

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and see that the laws are faithfully executed. In case of vacancy in the office of governor, the Speaker of the Senate fills that office. The judicial power is vested in a supreme and inferior court, the judges of which, and justices of the peace, are appointed by the governor, and commissioned during good behaviour; but are removable on an address from both houses. The other officers of the state are appointed, some by the governor, others by the general assembly, and some by the people. The qualifications for an elector are 21 years of age, 2 years residence, and payment of taxes. They are privileged from arrest in civil actions, while attending elections. The qualifications for a representative are 21 years of age, and 3 years inhabitance; for a senator, 25 years of age, and 4 years inhabitance; for a governor, 30 years of age, and 7 years inhabitance. The governor can hold no other office; and the senators and representatives none but that of attorney at law, and in the militia. No person holding an office of trust or profit under the United States can hold any office in this state, to which any salary is by law annexed. All the officers of this state are liable to impeachment; and are required by oath, or affirmation, to support the constitution, and perform the duties of their offices. The declaration of RIGHTS asserts "the natural equality and equality of all; liberty of conscience; freedom of election, and of the press; subordination of the military to the civil powers; trial by jury; security from unreasonable searches and seizures; a right to an equal distribution of justice to be heard in criminal prosecutions; to petition for redress of grievances; to bear arms; to be at liberty to emigrate from the State. It asserts, that all power is inherent in the people; that they may, at any time, alter their form of government; that no person shall be obliged to worship any religious worship, or support any ministry; that all persons, believing in the being of God, and a future state of rewards and punishments, are eligible to office; that laws cannot be suspended but by the Legislature; that all prisons shall be bailable, unless for capital offences; that every debtor shall be released from prison, delivering his estate to his creditors, according to law, unless there be strong presumption of fraud; that the privileges of the writ of habeas corpus shall not be suspended, but in time of rebellion or public danger; that no *ex post facto* law shall be made; that no person shall be attainted by the Legislature, or forfeit his estate for longer term than his own life; that no title of nobility, hereditary distinction, shall ever be granted. Among other peculiar laws of this State, are those securing all rivers and creeks to be open and free to all; another for the emancipation of negroes; a bankrupt law nearly on the same model with that of England, and a law substituting hard labour for a long period, instead of death, as a punishment for many crimes, which are made capital by the laws of England. Murder, however, and other crimes are still punished with death. The expence of government is estimated at 20,000 dollars annually.

PENNSYLVANIA, HISTORY OF. Pennsylvania was discovered in the reign of Henry VII, along with New York, New Jersey, and the rest of the N. American continent, by Sebastian Cabot, for the crown of England; but Sir Walter Raleigh was the first adventurer that attempted to plant colonies on these shores, in the reign of Q. Elisabeth. Mr Hudson, an Englishman, sailing to that part of the coast which lies between Virginia and New England, in the reign of James I, and being about to make a settlement at the mouth of Hudson's river, the Dutch gave him a sum of money to dispose of his interest in this country to them. In 1608 they began to plant it; and, by virtue of this purchase, laid claim to all those countries which are now denominated *New York*, *New Jersey*, and *Pennsylvania*; but there remaining some part of this coast which was not planted by the Hollanders, the Swedes sent a fleet of ships thither, and took possession of it for that crown; but the Dutch having a superior force in the neighbourhood, compelled the Swedes to submit to their dominion, allowing them however, to enjoy the plantations they had settled. The English, not admitting that either the Dutch or Swedes had any right to countries first discovered and planted by a subject of England, and part of them at that time possessed by English subjects, under charter from Q. Elizabeth and K. James I. K. Charles II, during the first Dutch war in 1664, granted New York, Jersey, and Pennsylvania, of which the Dutch had usurped the possession, to his brother James Duke of York; and Sir Robert Carr being sent over with a squadron of men of war and land forces, and summoning the Dutch governor of the city of New Amsterdam, now New York, to surrender, he yielded that capital to the English: the rest of the places in the possession of the Dutch and Swedes followed his example; and these countries were confirmed to the English by the Dutch, at the next treaty of peace between the two nations. The Duke of York afterwards parcelled them out to under proprietors; selling, in particular, to William Penn the elder, in 1683, the town of Newcastle, *alias* Delaware, and a district of 12 miles round the same; to whom his heirs and assigns, by another deed of the same date, he made over all that tract of land from 12 miles south of Newcastle to the Whorekills, otherwise called *Cape Henlopen*, now divided into the two counties of Kent and Sussex, which, with Newcastle district, are commonly known by the name of the *Three Lower Counties upon Delaware River*. All the rest of the under-proprietors, some time after, surrendered their charters to the crown; whereby New York and the Jerseys became royal governments; but Penn retained that part of the country which had been sold to him by the Duke of York, together with what had been granted to him before, in 1680-1, which now constitutes the State of Pennsylvania. As soon as Penn had got his patent, he began to plant the country. Those who went over from England were generally Dissenters and Quakers, whose religion is established by law here, but with full liberty to all other Protestant sects. The Dutch and Swedes, who were settled before Mr Penn became proprietor, chosing still to reside in this country, as they did in New York and the Jerseys, obtained the same privileges as the rest of the

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the king's subjects; and their descendants are now the same people, speaking their language, and being governed by the same laws. Mr Penn, however, not satisfied with the title granted him by K. Charles II. and his brother, bought the lands also of the Indians for a valuable consideration, or what they esteemed such (though *twenty miles* were purchased, at that time, for less than an acre about Philadelphia would cost now), paying them in cloth, tools, and utensils, to their entire satisfaction; for they had not hands to cultivate the 100dth part of their lands, and if they could have raised a product, there was nobody to buy: the purchase, therefore, was all clear gain to them; and, by the coming of the English, their paltry trade became so profitable, that they soon found their condition much altered for the better; and are now as well clothed and fed as the Europeans in many places. Pennsylvania is one of the most flourishing states in North America, having never had any quarrel with the natives. Whenever they desire to extend their settlements, they purchase new lands of the sachems, never taking any by force; but the Indians now set a very high price upon their lands, in comparison of what they did at first. In an estimate of the proprietary estate of the province, published above 50 years ago, we find that the proprietaries, who alone can purchase lands here from the natives, had bought 7,000,000 of acres for 750l. sterling, which the proprietaries afterwards sold at the rate of 15l. for every 100 acres. The Indian council at Onondago, however, disapproved of their deputies parting with so much land; and, in 1755, obliged the proprietaries to reconvey great part of the same to the Indians. A dispute subsisted a long time between the proprietaries of the province and Lord Baltimore, proprietary of Maryland, about the right to certain lands; which was at last amicably adjusted, greatly in favour of the Penns. About 1704 there happened some alteration in the constitution of the province. The establishment that took place, and subsisted till the American war broke out, consisted of a governor, council, and assembly, each with much the same power and privileges as in the neighbouring colony of New York. The lieutenant-governor and council were appointed by the proprietors Thomas and Richard Penn, with his majesty's approbation; but if the laws enacted here were not repealed within six months after they had been presented to the king for his approbation or disallowance, they were not repealable by the crown after that time. A state of peace and happiness affords few materials for the historian. On the breaking out of the American war, the citizens of Philadelphia took an early and active part. In Sept. 1776, they established a new constitution; which was considerably altered and improved in June 1792. (See § 5.) In 1793, this state, but particularly the capital was visited by the yellow fever, which in the short space of 3 months carried off about 5000 people. In 1794, an alarming insurrection took place in the western counties, the ostensible cause of which was an excise upon whisky, but an incendiary letter afterwards discovered, showed that a deep scheme had been laid to excite a rebellion in the state. But by the wise and decisive measures adopted by the executive vernment, supported by the great body of the tizens, the insurrection was quelled and tranq lity restored almost without bloodshed.

(7.) PENNSYLVANIA, LITERARY, HUMANE, OTHER SOCIETIES IN. No state in the Unio bounds more in Societies instituted for the purposes, than Pennsylvania. 1. The Amer Philosophical society was instituted in 1769, blished by charter in 1780, and consists of members. 2. The Humane Society for the very of persons apparently dead by drow was instituted in 1770. 3. The Pennsylvani ciety for promoting the Abolition of Slavery, begun in 1774, and enlarged in 1787. The lature have adopted its humane views, so far pass an act, March 1, 1788, "for the grad bolition of Slavery," wherein, among other t it was enacted "that no person born within the shall be a slave for life; and all perpetual sl is for ever abolished." 4. A Society for prom political inquiries was instituted in 1787: a also 5. a Society for promoting medical, ana cal, and chemical knowledge; which was inc rated by act of Assembly, in March, 1789, College of Physicians. 6. A Society for the e ragement of Useful Arts was instituted in 7. The Society of United Brethren for the p gation of the gospel among the heathen, wa instituted in 1787, and incorporated in 178 The Agricultural Society: 9. The Marine ty: 10. The Charitable Society, for the su of the widows and families of Presbyterian c men: besides many other charitable societi hospital, a public dispensatory, &c. Colleg acad.mies, &c. are mentioned under the of the cities. See CARLISLE, PHILADELPHI

(8.) PENNSYLVANIA, MANUFACTURES These being generally mentioned under the of the principal towns, it is only necessary t take notice, that manufactures of all kinds late greatly improved and increased in thi particularly those of leather, skins, furs, shoes, saddles, harnesses, &c. that iron wo of long standing, and that all the varieties branch either of cast or forged iron are mad Europe; that cabinet-making, house car coach-making, ship-building, &c. are carr with equal success; as well as manufact paper, stone and glass wares, earthen wares, gun-powder, and various utensils in copper and tin. But there is no probability that tizens of this state will be able to rival the facturers of Britain, in their woollen, lin cotton cloths, for a long period. One sp manufacture, peculiar to America, is carrie a great extent; viz. the making of excelle from the maple tree. About 300,000 hats made annually, of wool and fur.

(9.) PENNSYLVANIA, MINERALS OF. I is found in considerable quantities through state: copper, lead, and alum in several Lime-stone quarries are wrought in many and various kinds of beautiful marble. C abound in the middle and western parts.

(10.) PENNSYLVANIA, NATURAL CURI IN. In the *Philos. Trans.* for 1757, there i count of a copper spring in Pennsylvania

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bring ores from a copper mine; and will diſſolve ten in leſs time by three 4ths than the waters of Wicklow in Ireland, deſcribed by Dr William Henry and Dr Bond. From the ſolution of iron in theſe waters, about half the quantity of pure copper is procured by melting it in a crucible: although theſe waters melt iron ſooner than the Irish waters, yet the ſolution does not produce ſo great a proportion of copper; for the pure copper procured from the ſolution of iron in the Iriſh water is to the ſolution as 16 to 20. In the neighbourhood of this, which ſupplies 800 hhds. in 24 hours, are many ores of vitriol and ſulphur; the water is of a pale green colour, of an acid, ſweet, ſaline, inky, and nauſeous taſte. It is very heavy; for the hydrometer, which was immerſed in it, ſtood at the ſame height as in a ſolution of one ounce ſix drams of Engliſh vitriol in a quart of water. A very ſmall quantity of the ſolution of potaſh inſtantly precipitates the metallic parts of the water in three different colours; ochre at the top green in the middle, and white at bottom; a knife kept in it a few minutes, is covered with a bright copper colour. But beſides a large quantity of copper, this water contains alſo a great proportion of vitriol of iron. A pint of it yielded by a ſlow fire left 400 grains of ſolid contents, which appeared to be chiefly ſaline; for 300 grains of it, diſſolved and filtered, did not leave above four grains of indiſſoluble matter. It appears therefore, that the proportion of vitriolic acid in this water is ſix drams to a pint; conſequently it is a ſtronger ſolution of vitriol than ſea-water is of marine ſalt. So that, beſides the copper to be obtained by a ſolution of iron, it will afford great quantities of vitriol, and the great plenty both of water and fuel will make the eſtabliſhment of a copperas work extremely cheap and advantageous. This water mixed with common water is frequently uſed as an emetic and cathartic by the country people, and is found very efficacious in the cure of cutaneous diſorders and ſcorbutic ulcers. Amongſt the other curioſities of this county may be reckoned another ſpring about 14 miles deep and about 100 ſquare, in the neighbourhood of Reading. A full mill ſtream iſſues from it. The waters are clear and full of fiſhes. From appearances it is probable that this ſpring is the head of a very conſiderable river, which about 30 miles above this place ſinks into the earth, and is conveyed to this outlet in a ſubterranean channel. In the northern parts of Pennſylvania there is a creek called *Oil creek*, which runs into the Alleghany river. It iſſues from a ſpring, on the top of which floats an oil ſimilar to that called Barbadoes tar, and from which one man may gather ſeveral gallons in a day. The troops ſent to the weſtern poſts halted at this ſpring, collected ſome of the oil, and bathed their joints with it, which gave them great relief from the rheumatic pains with which they were affected. The water, of which the troops drank freely, operated as a gentle purge. There are three remarkable caves in this ſtate: one near Carliſle, in Cumberland county; one in the townſhip of Durham, in Bucks county; and the 3d at Swetara, in Lancaſter county. The latter is on the E. bank of the river, about 2 miles above its confluence with the Suſquehannah. Its entrance is ſpacious and deſcends ſo much as that the ſurface of the river is rather higher than the bottom of the cave. The vault of this cave is of ſolid limeſtone rock, perhaps 20 feet thick. It contains ſeveral apartments, ſome of them very high and ſpacious. The water is inceſſantly percolating through the roof, and falls in drops to the bottom of the cave. Theſe drops petrify as they fall, and have gradually formed ſolid pillars, which appear as ſupports to the roof. Forty years ago there were ten ſuch pillars, each ſix inches in diameter, and ſix feet high; all ſo ranged that the place they incloſed reſembled a ſanctuary in a Roman church. No royal throne ever exhibited more grandeur than this *luſus naturæ*. The reſemblances of ſeveral monuments are found indented in the walls on the ſides of the cave, which appear like the tombs of departed heroes. Suſpended from the roof is *the bell* (which is nothing more than a ſtone projected in an unuſual form), ſo called from the ſound that it occaſions when ſtruck, which is ſimilar to that of a bell. Some of the ſtalactites are of a colour like ſugar-candy, and others reſemble loaf ſugar; but their beauty is much defaced. The water, which percolates through the roof, ſo much of it as is not petrified in its courſe, runs down the declivity, and is both pleaſant and wholeſome to drink. There are ſeveral holes in the bottom of the cave, deſcending perpendicularly, perhaps into an abyſs below, which renders it dangerous to walk without a light. At the end of the cave is a pretty brook, which, after a ſhort courſe, loſes itſelf among the rocks. Beyond this brook is an outlet from the cave by a very narrow aperture. Through this the vapours continually paſs outwards with a ſtrong current of air, and aſcend, reſembling at night the ſmoke of a furnace. Part of theſe vapours and fogs appear on aſcending to be condenſed at the head of this great alembic, and the more volatile parts to be carried off, through the aperture communicating with the exterior air, by the force of the air in its paſſage.

(11.) PENNSYLVANIA, POPULATION OF, AND RELIGIOUS SECTS IN. Dr Morſe informs us, that in 1787 the inhabitants of Pennſylvania were reckoned at 360,000. They are now more than 460,000. Theſe inhabitants conſiſt of emigrants from England, Ireland, Germany, and Scotland. The Friends and Epiſcopalians are chiefly of Engliſh extraction, and compoſe about one third of the inhabitants. They live principally in Philadelphia, and in the counties of Cheſter, Philadelphia, Bucks, and Montgomery. The Iriſh are moſtly Preſbyterians. Their anceſtors came from the north of Ireland, which was originally ſettled from Scotland; hence they have ſometimes been called Scotch Iriſh, to denote their double deſcent. But they are commonly and more properly called Iriſh, or the deſcendants of people from the north of Ireland. They inhabit the weſtern and frontier counties, and are numerous. The Germans compoſe one quarter at leaſt, if not a third, of the inhabitants of Pennſylvania. They inhabit the north parts of the city of Philadelphia, and the counties of Philadelphia, Montgomery, Bucks, Dauphin, Lancaſter, York, and Northampton; moſtly in the four laſt. They conſiſt of Lutherans (who are the

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moſt numerous ſect), Calviniſts, Moravians, Mennoniſts, Tunkers (corruptly called Dunkers), and Swinfelters, who are a ſpecies of Quakers. Theſe are all diſtinguiſhed for their temperance, induſtry, and economy. The Germans have uſually 15 of 69 members in the aſſembly: and ſome of them have ariſen to the firſt honours in the ſtate, and now fill a number of the higher offices. Yet the lower claſs are very ignorant and ſuperſtitious. It is not uncommon to ſee them going to market with a little bag of ſalt tied to their horſes manes, for the purpoſe, they ſay of keeping off the witches. The Baptiſts (except the Mennoniſts and Tunker Baptiſts, who are Germans) are chiefly the deſcendants of emigrants from Wales, and are not numerous. A proportionate aſſemblage of the national prejudices, the manners, cuſtoms, religions, and political ſentiments of all theſe, will form the Pennſylvanian character. As the leading traits in this character, thus conſtituted, we may venture to mention induſtry, frugality bordering in ſome inſtances on parſimony, enterpriſe, a taſte and ability for improvements in mechanics, in manufactures, in agriculture, in commerce, and in the liberal ſciences; temperance, plainneſs, and ſimplicity in dreſs and manners: pride and humility in their extremes; inoffenſiveneſs and intrigue; in regard to religion, variety and harmony; liberality, and its oppoſites, ſuperſtition and bigotry; and in politics an unhappy jargon. Such appear to be the diſtinguiſhing traits in the collective Pennſylvanian character. Of the great variety of religious denominations in Pennſylvania, the Friends or Quakers are the moſt numerous. They were the firſt ſettlers of Pennſylvania in 1682 under William Penn, and have ever ſince flouriſhed in the free enjoyment of their religion. See QUAKERS. They are generally honeſt, punctual, and even punctilious in their dealings; provident for the neceſſities of their poor; friends to humanity, and of courſe enemies to ſlavery; ſtrict in their diſcipline; careful in the obſervance even of the punctilios in dreſs, ſpeech, and manners, which their religion enjoins; faithful in the education of their children; induſtrious in their ſeveral occupations. In ſhort, they have proved themſelves to be good citizens. Next to the Quakers, the Preſbyterians are the moſt numerous. There are upwards of 60 miniſters of the Lutheran and Calviniſt religion, who are of German extraction, now in this ſtate; all of whom have one or more congregations under their care; and many of them preach in ſplendid and expenſive churches. The Lutherans do not differ in any thing eſſential from the Epiſcopalians, nor do the Calviniſts from the Preſbyterians. The Moravians are of German extraction. Of this religion there are about 1300 ſouls in Pennſylvania, *viz.* between 500 and 600 in Bethlehem, 450 in Nazareth, and upwards of 300 at Litiz in Lancaſter county. They call themſelves the *United Brethren of the Proteſtant Epiſcopal Church.* They are called *Moravians*, becauſe the firſt ſettlers in the Engliſh dominions were chiefly emigrants from Moravia. See HERNHUTTERS, and UNITAS FRATRUM; and for the Mennonites, ſee MENNONITES. They were introduced into America by Count Zinzendorf, and ſettled at Bethlehem, which is their principal ſettlement in America, as early as 1741. For the Tunkers, ſee TUNKERS.

(12.) PENNSYLVANIA, PRINCIPAL TOWNS OF. Theſe are PHILADELPHIA, the capital, Lancaſter, Carliſle, Pittſburg, Sunbury, Bethlehem, Nazareth, York-town, Harriſburg, and Waſhington. See theſe articles.

(13.) PENNSYLVANIA, QUADRUPEDS, BIRDS AND FISH OF. Beſides the uſual domeſtic animals, horſes, ſheep, and oxen, this ſtate abounds with deer, beavers, otters, racoons, martins, pitchers, bears, wolves, ſquirrels, foxes, opoſſum, rabbits, wild cats, &c. Buffaloes ſeldom croſs the Ohio. Wild turkeys and pheaſants, formerly numerous, are now become rare, except in the new ſettlements. Pigeons, ducks, and wild geeſe are numerous. Turkeys and other tame poultry are numerous and cheap. The rivers abound with fiſh.

(14.) PENNSYLVANIA, RIVERS OF. The chief rivers are the Delaware, Schuylkill, Suſquehanna, Alleghany, Monongahela, and Youghiogany. See theſe articles.

(15.) PENNSYLVANIA, SOIL AND PRODUCE. The ſoil is various; ſome parts barren; a great proportion good; and a conſiderable part commonly fertile. In general it is fitter for raiſing grain than graſs. The greater part of the trees and plants, that grow in the United States abound in Pennſylvania. Oak, hiccory, walnut, ſaſſafras, mulberry, and tulip trees abound in the woods. Pines, cedars, red and white, elms, maples alſo are numerous. Wheat, the ſtaple of Pennſylvania, Indian corn, buck wheat, rye, barley, oats, potatoes, &c. are cultivated in great quantities.

(16.) PENNSYLVANIA, TRADE OF. The commerce with the E. and S. ſtates is chiefly an exchange. Flour, bar iron, hats, ſhoes, ſaddles, carriages, ſpades, axes, hoes, paper, books, tin and iron wares, &c. are exported; and oil, ſpermaceti, ſeal ſkins, ſalmon, cod, cheeſe, tar, pitch, furniture, India goods, European clothing, &c. are imported. Its trade with New York depends on the fluctuation of the market; but a great trade is carried on with New Jerſey and Delaware, as well as with the Spaniſh dominions by the Ohio, and with the Britiſh by the lakes, and both with the Indian nations.

PENNSYLVANIAN, *adj.* Of or belonging to Pennſylvania.

(1.) * PENNY. *n. ſ.* plural *pence*. [*penig*, Sax.] 1. A ſmall coin, of which twelve make a ſhilling; a penny is the radical denomination from which Engliſh coin is numbered, the copper halfpence and farthings being only *nummorum famuli*, or ordinate ſpecies of coin.—

No ſilver *penny* to reward her pain. *Dryden.*
One frugal on his birth-day fears to dine
Does at a *penny's* coſt in herbs repine. *Dryden.*

2. Proverbially. A ſmall ſum.—

You ſhall hear
The legions, now in Gallia, ſooner landed
In our not-fearing Britain, than have tidings
Of any *penny* tribute paid.
We will not lend thee a *penny*.

—Take not the utmoſt *penny* that is lawful; although it be lawful, yet it is not ſafe. *Taylor.*

3. Money in general.—

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Be ſure to turn the *penny*. *Dryden.*

—It may be a contrivance of ſome printer, who hath a mind to make a *penny*.

(2.) PENNY, or PENY, in commerce, an ancient Engliſh coin, which had formerly conſiderable courſe; but, till of late, was dwindled into an imaginary money, or money of account, containing the 12th part of a ſhilling, or 140th of a pound. Camden derives the word from the Latin *pecunia*, money. The ancient Engliſh penny, penig, or peneg, was the firſt ſilver coin ſtruck in England; and the only one current among the Anglo Saxons: as is agreed by Camden, Spelman, Dr Hicks, &c. The penny was equal in weight to our three-pence; five of them made one ſhilling, or ſcilling Saxon; 30 a mark or mancuſe, equal to our 7s. 6d. Till the time of King Edward I. the penny was ſtruck with a croſs, ſo deeply indented in it, that it might be eaſily broke, and parted on occaſion, into two parts, thence called *half-pennies*; or into four, thence called *fourthings*, or *farthings*.—But that prince coined it without indenture; in lieu of which, he firſt ſtruck round halfpence and farthings. He alſo reduced the weight of the penny to a ſtandard; ordering that it ſhould weigh 32 grains of wheat, taken out of the middle of the ear. This penny was called the *penny ſterling*. Twenty of theſe pence were to weigh an ounce; when the penny became a weight as well as a coin. See STERLING, and PENNYWEIGHT. The *ſilver* penny is now much diſuſed; but in 1797, a new *copper* coinage took place, when a great quantity of half-penny, penny, and *two-penny* pieces were ſtruck; the two latter in quite a new form; the legend GEORGIUS III. D. G. REX, and BRITANNIA. 1797, on the reverſe, being *funk*, inſtead of being raiſed.

(3.) PENNY, in ancient ſtatutes, is uſed for all ſilver money. And hence the *ward-penny*, *averpenny*, *hundred-penny*, *tithing-penny*, and *brothal-penny*.

PENNYCUICK, [*Gael.* i. e. *Cuckoo's hill.*] a pariſh of Scotland, in Mid Lothian 17½ miles long, and 6 broad. The Eſk runs through it from W. to E. and nearly divides it. The ſoil is various; clay, gravel, ſand, and moſs: Oats, barley, peaſe, turnips, and potatoes are the chief crops. The climate is healthy, but the air is keen and piercing, the winters are ſevere, and the changes of weather often ſudden and violent. Iron, lime, free-ſtone, granite, *petunſe pentlandicæ*, peats and coals abound. Silver has alſo been found in it. There are likewiſe chalybeate, mineral, and petrifying waters. Many petrified ſhells of the *mytilus*, *ungula*, and *helix*, and figured ſtones have been found among various ſtrata. On the N. the pariſh includes a part of the Pentland Hills, which abound with paſture, and feed about 8000 ſheep of this pariſh. The population in 1793 was 1721; increaſe 831, ſince 1755, chiefly occaſioned by the erection of a cotton and 2 paper mills. There are relics of ſeveral ancient camps. In this pariſh alſo are the ſeats of *New-Hall*, *Spittal*, and *Pennecuick-Houſe*. This laſt is an elegant manſion, erected in 1761, by Sir James Clerk of Pennecuick, Bart. Its ſituation is delightful, commanding a proſpect of the valley in which the Eſk runs, terminated by the W. extremity of Pentland Hills, and the ruins of BRUNSTONE CASTLE. It has an excellent library of books, paintings, and Roman antiquities, chiefly from ANTONINUS's wall. The policies around it are highly ornamental, and near the river is *Oſſian's Hall*, an admired work of Runciman's: on the oppoſite ſide of the river is an obeliſk to the memory of Allan Ramſay, the Scottiſh poet, who often reſided here, and drew the various picturesque ſcenes of his beautiful paſtoral comedy, the Gentle Shepherd, from a number of real ſcenes ſtill viſible on the borders of this pariſh; as is pointed out at conſiderable length, in *Sir J. Sinclair's Stat. Acc.* Vol. XVII. p. 609—616.

(2.) PENNYCUICK, a village in the above pariſh, 9 miles SW. of Edinburgh, ſeated near Pennecuick Houſe.

(3.) PENNECUICK, Alexander, M. D. a Scottiſh poet and phyſician, who publiſhed a ſmall volume of humourous poems in the Scottiſh dialect, in the 17th century. He was proprietor of New Hall and Romanno.

(1.) * PENNYROYAL, or *pudding graſs*. *n. ſ.* [*pulegium*, Lat.] A plant. *Miller.*

(2.) PENNY-ROYAL, in botany. See MENTHA.

(3.) PENNY-ROYAL, VIRGINIAN. See SATUREIA.

(1.) * PENNYWEIGHT. *n. ſ.* [*penny* and *weight*.] A weight containing 24 grains troy weight.—The Sevil piece of eight is 1½ *pennyweight* in the pound worſe than the Engliſh ſtandard, weighs 14 *pennyweight*, contains 13 *pennyweight*, 21 grains and 15 mites, of which there are 20 in the grain ſterling ſilver, and is in value 43 Engliſh pence and 11 hundreds of a penny. *Arbuthnot.*

(2.) *The* PENNY-WEIGHT is a Troy weight, containing 24 grains; each grain weighing a grain of wheat gathered out of the middle of the ear, well dried. The name took its riſe hence, that this was formerly the weight of one of our ancient ſilver pennies. See PENNY. Twenty of theſe penny-weights make an ounce Troy.

* PENNYWISE. *adj.* [*penny* and *wiſe*.] One who ſaves ſmall ſums at the hazard of larger; one who is a niggard on improper occaſions.—Be not *pennywiſe*; riches have wings and fly away of themſelves. *Bacon.*

(1.) PENNY-WORT, MARSH. See HYDROCOTYLE.

(2.) PENNY-WORT, WALL. See COTYLEDON.

(3.) PENNY-WORT, WATER. See HYDROCOTYLE.

* PENNYWORTH. *n. ſ.* [*penny* and *worth*.] 1. As much as is bought for a penny. 2. Any purchaſe; any thing bought or ſold for money.—As for corn it is nothing natural, ſave only for barley and oats, and ſome places for rye; and therefore the larger *pennyworths* may be allowed to them. *Spenſer.*—

Pirates may make cheap *penn'worths* of their pillage,
And purchaſe friends. *Shak.*

—You may come into court, and ſwear that I have a poor *pennyworth* of the Engliſh. *Shak.*—Lucian affirms, that the ſouls of uſurers after their death are tranſlated into the bodies of aſſes, and there remain certain days for poor men to take their *pennyworths* out of their bones and ſides by cudgel and ſpur. *Peacham.*—Though in purchaſes

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chaſes of church lands men have uſually the cheapeſt *pennyworths*, yet they have not always the beſt bargains. *South.* 3. Something advantageouſly bought; a purchaſe got for leſs than it is worth.—

For fame he pray'd, but let the event declare,
He had no mighty *penn'worth* of his pray'r. *Dryd.*

4. A ſmall quantity.—My friendſhip I diſtribute in *pennyworths* to thoſe about me.

(1.) PENOBSCOT, a large river of the United States, in Maine, which is formed by the confluence of two conſiderable rivers, called the *E.* and and *W. Forks*, that riſe on the borders of Canada, and unite below the Mooſe-head lake, which is 35 miles long and 15 broad. Thence it runs S. for 60 miles to Indian Oldtown, 40 of which are through a fertile level country. About 300 yards farther down, it has a portage of 120 yards. Thence it continues to run S. 47 miles, and falls into the Atlantic at Fort Pownal, where it forms a large BAY. (N° 3.) The tide runs 35 miles up this river, which is navigable 34 miles by veſſels of 30 tons.

(2.) PENOBSCOT, a poſt town and port of entry of the United States, in Maine, capital of Hancock county. It contained 1084 citizens in 1790. It is 141 miles NW. of Portland 262 N. by E. of Boſton, and 606 from Philadelphia. Lon. 68. 40. W. Lat. 44. 24. N.

(3.) PENOBSCOT BAY, a large bay of the Atlantic, on the S. coaſt of Maine, about 48 miles broad; containing ſeveral iſlands. Lon. 68. 40. to 9 0. W. Lat. 43. 55. to 44. 30.

(4.) PENOBSCOT HILLS, mountains of the United States, in Maine, on the W. coaſt of Penobſcot Bay.

(5.) PENOBSCOTS, a nation of N. American Indians who live in Indian Old Town, a town on an iſland in the Penobſcot, which they ſay they have poſſeſſed above 500 years. Their iſland contains about 200 acres of ground.

(1.) PENPONT, [from *pendens pons*, Lat.] a pariſh of Scotland in Dumfries-ſhire, 24 miles long, and above 5 broad. The groun riſes from the SE. by a continual aſcent to the NW. where, on the banks of the Scarr, (which riſes there) it is 3,500 feet above the level of the river. The lower part is watered by the Nith. Cairnkinnow is in the middle of the pariſh. (See CAIRNKINNOW.) The whole diſtrict exhibits a beautiful and romantic proſpect. *Glenquhargen Craig*, a high rock of hard browniſh whinſtone, is above 1000 feet of perpendicular height. The ſoil is ſandy and moſtly deep, but has been much improved by lime. All the uſual grain are raiſed, as well as turnips, potatoes, clover, &c. The population in 1790 was 800; decreaſe 57, ſince 1755; the number of ſheep was 1200; of black cattle 980.

(2.) PENPONT, a village in the above pariſh, containing about 120 inhabitants.

PENRHYN DHA, a cape on the W. coaſt of Wales, in Caernarvonſhire; 10 m. S. of Pulhey.

PENRISE, a ſea port town of S. Wales, in Glamorganſhire, with a market on Thurſday; 20 miles SE. of Caermarthen, 14 WNW. of Swanſea, and 219 W. of London. Lon. 2. 52. W. Lat. 51. 40. N.

PENRITH, an ancient town of Cumberland in England, ſeated under a hill called PENRITH-FELL, near the rivers Eamont and Lowther. It is a great thoroughfare for travellers; but has little other trade, except tanning, and a ſmall manufacture of checks. Formerly it had a caſtle, but it is now in ruins. In the church-yard is a monument of great antiquity, conſiſting of two four pillars 11 feet 6 inches high, and 5 in circumference in the lower part, which is rounded; the upper is ſquare, and tapers to a point: in the ſquare part is ſome fret-work, and the relievo a croſs; and on the interior ſide of one is the faint repreſentation of ſome animal. But theſe ſtones are mortiſied at their lower part into a round one they are about 15 feet aſunder, and the ſpace between them is incloſed on each ſide with two very large but thin ſemicircular ſtones; ſo that there is left between pillar and pillar a wall two feet in breadth. Two of theſe leſſer ſtones are plain, the others have certain figures, at preſent ſcarce intelligible. Near theſe pillars is another called the *giant's thumb*, 5 feet 8 inches high, with an expanded head, perforated on both ſides; from the middle the ſtone riſes again in a leſſer head, rounded at top; but no part has a tendency to the figure of a croſs, being in no way mutilated. The pillars are ſaid to have been ſet up in memory of Sir Owen Ceſarius, a famous warrior, buried here, who killed ſo many wild bears, which much infeſted this county, that the figures of bears, cut in ſtone, on each ſide of his grave, were ſet there in remembrance of the execution he made among thoſe beaſts; and it likewiſe ſaid his body extended from one ſide to the other. In the market-place there is a timber houſe of wood, beautified with bears climbing on a ragged ſtaff. There is a memorandum on the ſide of the veſtry without, that, in 1598, 1200 perſons died here of the plague. There is a charity-ſchool in this place for 20 boys, and another for 30 girls, maintained by 55l. a year, by the ſacrament money and pariſh ſtock. *In* 1715, the Scotch Highlanders entered this town, and quartered in it for a night, in their way to Preſton, without doing much harm; but in the rebellion, 1745, they were, it is ſaid, very tyrannicious and cruel. Its handſome ſpacious church has been lately rebuilt, and the roof ſupported by pillars, whoſe ſhafts are of one entire red ſtone, dug out of a neighbouring quarry. On the E. part of the pariſh, upon the N. bank of the river Eamont, there are two caves or grottoes, cut out of the ſolid rock, and ſufficient to contain ſix men. The paſſage to them is very narrow and dangerous; and it is poſſible that its perilous acceſs may have given it the name of *Iſis Parlis*. The vulgar tell many ſtories of one Iſis, a giant, who lived there in former times. But probably, theſe ſubterraneous chambers were made for a ſafe retreat in time of ſudden danger; and the iron gates, which were taken away not long ago, ſerve to confirm that ſuppoſition. Lon. 3. 16. W. Lat. 54. 35. N.

PENROSE, Thomas, was the ſon of the Rev. Mr Penroſe, rector of Newbury, Berks, a gentleman of great abilities, deſcended from an ancient Cornish family. Mr Penroſe, jun. being intended

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the church, pursued his studies with success, at Christchurch, Oxford, until summer 1762, when having taken turn to the naval and military line overpowering his attachment to his real interest, he left his college, and embarked in the unfortunate expedition against Nova Colonia, in South America, under Cap. Macnamara. The issue was fatal. The Clive (the largest vessel) was burnt; and though the Ambuscade escaped (on board of which Mr Penrose, acting as lieutenant of Marines, was wounded), yet the hardships which he afterwards sustained in a prize sloop, in which he was shipwrecked, utterly ruined his constitution. Returning to England with ample testimonials of his gallantry and good behaviour, he finished, at Hertford College, Oxford, his course of studies; and having taken orders, accepted the curacy of Newbury, the income of which, by the voluntary subscription of the inhabitants, was considerably augmented. After he had continued in that station about 9 years, he was presented by a friend, to a living worth near 500 l. *per annum*. It came, however, too late; for Mr Penrose's health was already in a deep decline, and he died at Bristol in 1767, aged 36. In 1768 he married Miss Mary Hillier of Newbury, by whom he had one child, a daughter, who was educated at Winton College. Mr Penrose was respected for his extensive erudition, admired for his eloquence, and esteemed for his social qualities. By the poor, to whom he was liberal, he was venerated. To his poetical merits the public, by their reception of his poems *of Fancy*, &c. have given a favourable sanction.

PENRYN, a town of Cornwall, seated on a creek at the entrance of Falmouth haven by Penryn castle. It consists of about 300 houses; the streets are broad and well paved. There are many gardens and orchards in it, that it resembles a town in a wood. It is well watered with rivulets, and has an arm of the sea on each side of it, with a good custom-house and quay, and other neat buildings. It drives a considerable trade in pilchards, and in the Newfoundland fishery. It was anciently governed by a portreeve; but Q. Elizabeth I. made it a corporation, consisting of a mayor, 11 aldermen, 12 common councilmen, a recorder, steward, &c. an office of record and a prison, and power to try felons. The mayor and two aldermen are justices of the peace. There was anciently a monastery in this place, and there are still relics of a tower, garden walls, and a private church. It has now neither church nor chapel. It has sent members to parliament since the first year of Q. Mary; and James I. granted it a new charter, but it was never put in use, all the inhabitants that pay scot and lot are about 100, being the electors. Mr. Carew gives a very remarkable account how Penryn was once saved by a company of strolling players. He says, that in the end of the 16th century, the Spaniards were landing to burn the town, just as the players were setting Samson upon the pillars; which performance was accompanied with such drumming and shouting, that the Spaniards thought some ambush was laid for them, and scampered back to their ships. Q. Elizabeth founded a free school in this place. Lon. 5. 35. W. Lat. 50. 23. N.

PENS, a town of Cuba; 22 m. SW. of Bayamo.

PENSACOLA, the capital of W. Florida, is seated at the mouth of a river on the gulf of Mexico. It was established by the French, and ceded to Great Britain in 1763. Its first discoverer was Sebastian Cabot in 1497. It was reduced in 1781, by the Spaniards under Don Bernard Galvez, after the most obstinate defence made by the British troops that is possible to be conceived, against a much superior force of Spanish veterans. The bravery of the British would indeed in all probability have preserved the place had not a shell burst open the door of a powder magazine under the redoubt, by which it was blown up, and 100 men killed or wounded. A capitulation therefore became absolutely necessary, which was obtained on honourable terms. The town, with the whole province of West Florida, was confirmed to the Spaniards by the treaty of 1783. Lon. 87. 20. W. Lat. 30. 22. N.

PENSANCE, a town of Cornwall, at the bottom of Mountsbay, about ten miles from the Land's End. It was burnt in 1595 by the Spaniards, who, with four galleys, surprised this part of the coast, and set fire to several villages and farms; but it was soon after rebuilt, made one of the coinage towns, and has now a considerable trade. It lies in the parish of Madern, noted for its restorative spring, famous for curing lameness, cholic, &c. It is well built and populous, and has many ships. The shore abounds so much with lead, tin, and copper ore, that the veins thereof appear on the utmost extent of land at low-water mark. It is 287 miles W. by S. of London. Lon. 5. 35. W. Lat. 51. 23. N.

PENSBURY. See PENNSBURY.

PENSFORD, a town of Somersetshire, with a market on Tuesday. It is seated on the Chew, and is famed for its hats and bread. It lies 7 miles W. of Bath, and 117 W. by S. of London. Lon. 2. 30. W. Lat. 51. 23. N.

* PENSILE. *adj.* [*pensilis*, Latin.] 1. Hanging; suspended.—Two trepidations; the one manifest and local, as of the bell when it is *pensile*; the other secret, of the minute parts. *Bacon.*—

Anxious I ask you how the *pensile* ball
Should never strive to rise, nor never fear to fall? *Prior.*

2. Supported above the ground.—

The marble brought, erects the spacious dome,
Or forms the pillars long-extended rows,
On which the planted grove and *pensile* garden grows. *Prior.*

* PENSILENESS. *n. s.* [from *pensile*.] The state of hanging.

PENSILES HORTI, *Hanging Gardens*, in antiquity. See BABYLON, § 4.

PENSILVANIA, an erroneous spelling. See PENNSYLVANIA.

* PENSION. *n. s.* [*pension*, Fr.] An allowance made to any one without an equivalent. In England it is generally understood to mean pay given to a state hireling for treason to his country.—A charity bestowed on the education of her young subjects has more merit than a thousand *pensions* to

to those of a higher fortune. *Guardian.*—He has liv'd with the great without flattery, and been a friend to men in power without *pensions*. *Pope.*

Chremes, for airy *pensions* of renown,
Devotes his service to the state and crown.
Young.

(2.) *A* PENSION is or ought to be a sum of money paid annually for actual services, or considerations already past. The yearly payment of each member to the houses of the inns of courts are likewise named *pensions*; and the yearly assembly of the society of Gray's Inn, to consult on the affairs of the house, is also called a *pension*.

* *To* PENSION. *v. a.* [from the noun.] To support by an arbitrary allowance.—One might expect to see medals of France in the highest perfection, when there is a society *pensioned* and set apart for the designing of them. *Addison.*—

The hero William, and the martyr Charles,
One knighted Blackmore, and one *pension'd*
Quarles. *Pope.*

(1.) * PENSIONARY. *adj.* [*pensionnaire*, Fr.] Maintained by pensions.—

His silly plots, and *pensionary* spies. *Donne.*

—They were devoted by *pensionary* obligations to the olive. *Howel's Vocal Forest.*

(2.) PENSIONARY, *n. s.* or PENSIONER, a person who has an appointment or yearly sum, payable during life, by way of acknowledgment, charged on the estate of a prince, company, or particular person.

(3.) PENSIONARY, in the ci-devant government of the United Provinces, was the first minister of the regency of each city in Holland. His office was to give his advice in affairs relating to the government, either of the state in general, or of the city in particular; and in assemblies of the states of the province, he was speaker in behalf of his city. The function, however, of these pensionaries was not everywhere alike; in some cities they only gave their advice, and were never found in assemblies of the magistrates, except when expressly called thither: in others they attended constantly: and in others they made the propositions on the part of the burgomasters, drew up their conclusions, &c. They were called *pensionaries*, because they received an appointment or pension.

(4.) PENSIONARY, GRAND, a ci-devant appellation given to the first minister of the States of Holland. The grand pensionary was chairman in the assemblies of the states of that province: he proposed the matters to be consulted on; collected the votes; formed and pronounced the resolutions of the states; opened letters; conferred with foreign ministers, &c. His business was also to inspect the finances, to maintain the authority of the states, and to see that the laws were observed; and he was perpetual deputy of the states general of the United Provinces. His commission was, however, given him only for five years; after which it was deliberated whether or not it should be renewed; but there is no instance of its being revoked; therefore death only put an end to the functions of this important minister.

(1.) * PENSIONER. *n. s.* [from *pension.*] 1. One who is supported by an allowance paid at the will of another; a dependant.—Prices of things necessary for sustentation grew excessive to the hurt of *pensioners*, soldiers, and all hired servan *Camd.*—

Hovering dreams,
The fickle *pensioners* of Morpheus' train. M
—He would make enquiry for new *pensioners*. I
—The rector is maintained by the perquisite the curate's office, and therefore is a kind of *sioner* to him. *Collier.* 2 A slave of state hired a stipend to obey his master.—

In Britain's senate he a seat obtains,
And one more *pensioner* St Stephen gains. *P*

(2.) PENSIONER, in the university of Cambri and in that of Dublin, has a very peculiar m ing; for those students, either under-graduate bachelors of arts, are called *pensioners*, who wholly at their own expence, and who receiv emolument whatever from the college of w they are members. They are divided into kinds, the *greater* and the *less*; the forme whom are generally called *fellow-commoners*, cause they eat with the fellows of their coll the latter are always called *pensioners*, and eat the scholars, who are those students of the lege, either under-graduates or bachelors wh upon the foundation, who receive emolum from the society, and who are capable of b elected fellows. See SERVITOR and SIZAR.

(3.) PENSIONER, in general denotes a pe who receives a pension, yearly salary, or a ance from government. Hence

(4.) PENSIONERS, THE BAND OF GENTLE the noblest sort of guard to the king's perso lists of 40 gentlemen who receive a yearly pe of 100l. This honourable band was first inst ed by King Henry VIII. and their office is t tend the king's person, with their battle-axe and from his chapel-royal, and to receive him presence-chamber, or coming out of his privy gings; they are also to attend at all great s nities, as coronations, St George's feast, p audiences of ambassadors, at the sovereign's to parliament, &c. They are each oblige keep three double horses and a servant, and properly a troop of horse. They wait half time quarterly; but on Christmas day, Easter Whitsunday, &c. and on extraordinary occa they are all obliged to give their attend They likewise carry up the sovereign's dinn the coronation-day and St George's feast which times the king or queen usually confe honour of knighthood on two such gentlem the band as their captain presents. Their are gilt battle-axes: and their weapons on back, in time of war, are cuirassiers arms, sword and pistols. Their standard, in tim war, is argent, a cross gules. Their captain ways a nobleman, who has under him a lie ant, a standard-bearer, a clerk of the chec cretary, paymaster, and harbinger.

* PENSIVE. *adj.* [*pensif*, French; *pensiv* lian.] 1. Sorrowfully thoughtful; sorro mournfully serious; melancholy.—Think it good work, which they in their *pensive* ca the well bestowing of time account waste. *B*

Are you at leisure, holy father?—
—My leisure serves me, *pensive* daughter,

Anxious cares the *pensive* nymph oppress.

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a It is generally and properly uſed of perſons; but *Prior* has applied it to things.—

We, at the ſad approach of death, ſhall know
The truth, which from theſe *penſive* numbers flow,
That we purſue falſe joy, and ſuffer real woe.
Prior.

PENSIVELY. *adv.* [from *penſive*.] With melancholy; ſorrowfully; with gloomy ſerioufneſs.—

On herbs and flowers ſhe walked *penſively*.
Spenſer.

PENSIVENESS. *n. ſ.* [from *penſive*.] Melancholy; ſorrowfulneſs; with gloomy ſerioufneſs.—Concerning the bleſſings of God, we ſhould delight more in giving thanks than in making requeſts for them, inaſmuch as the one hath *penſiveneſs* and fear, the other always joy annexed. *Hooker.*—

Would'ſt thou unlock the door
To cold deſpairs and gnawing *penſiveneſs*?
Herbert.

PENSTOCK. *n. ſ.* a ſluice or flood-gate, ſerving to retain or let go the water of a mill-pond, or the like.

PENT. part. paſſ. Shut up.—

Cut my lace aſunder,
That my *pent* heart may have ſome ſcope to beat.
Shak.

The ſon of Clarence have I *pent* up cloſe.
Shak.

The ſoul pure fire, like ours of equal force;
That yet in fleſh, muſt iſſue by diſcourſe. *Dryd.*

Pent up in Utica, he vainly forms
A brave epitome of Roman greatneſs. *Cato.*

PENTA, a town of the French imperial republic in the iſland and department of Corſica; 7 leagues NE. of Porta.

PENTACAPSULAR. *adj.* [πεντε and *capſular*.] Having five cavities.

PENTACEROS, in natural hiſtory, a name given by Linkius and ſome other authors to a kind of *aſtroma*, or ſea ſtar-fiſh, compoſed of five equal rays, with ſeveral tranſverſe hairy or ſpiny proceſſes.

PENTACHORD. *adj.* [πεντε and χορδη.] Inſtrument with five ſtrings.

The PENTACHORD, [of πεντε *five*, χορδη *ſtring*] an ancient muſical inſtrument. The invention of the pentachord is referred to the Scythians; the ſtrings were of bullock's leather; and they were ſtruck with a plectrum made of goat's horn.

PENTACROSTIC, in poetry, a ſet of verſes ſo placed, as that there are always five acroſtics of the ſame name, in five diviſions of each verſe. See ACROSTIC.

PENTACTINODOS, in natural hiſtory, a name given by ſome authors to thoſe ſpecies of fiſh which are compoſed of a body divided into five rays.

PENTADACTYLON, FIVE FINGERS, in botany, a name given by ſome authors to the *ricinus* of *Chriſti*, from the figure of its leaf.

PENTADACTYLOS PISCIS, the *five-fingered fiſh*, in ichthyology, the name of a fiſh common in the ſeas about the Eaſt Indies, and called by the Dutch there *vyf vinger viſch*. See *Plate* CCLXVII. It has this name from five black ſtreaks which it has on each ſide, reſembling the prints of five fingers. Its head is flat, convex at the bottom, plain in the ſides, and inclined in the fore part. The ſnout is thick, obtuſe, and round; the lower jaw at its extremity bent and rounded; the noſtrils are double; the balls of the eyes oval; the iris of a ſilver colour; the firſt fin of the back is ſmall, the ſecond is more elevated; thoſe of the breaſt are inſerted obliquely, that of the anus is greatly extended, and that of the tail much floped. The whole body is covered with ſcales of a moderate ſize, thin, flexible, and ſlightly indented on their hinder edge; the back is reddiſh, the ſides of a ſilver colour, and the fins white. The fiſh is deſcribed by ſome as about nine inches long; by others as a foot and a half. It is a dry but not ill-taſted fiſh.

PENTAEDROSTYLA, in the old ſyſtem of mineralogy, a genus of ſpars. (See SPAR.) The bodies of this genus are ſpars in form of pentagonal columns, terminated by pentangular pyramids at one end, and regularly affixed at the other to ſome ſolid body.

* PENTAEDROUS. *adj.* [πεντε and εδρα.] Having five ſides.—The *pentaedrous* columnar coralloid bodies are compoſed of plates ſet lengthways, and paſſing from the ſurface to the axis. *Woodward.*

(1.) * PENTAGON. *n. ſ.* [*pentagon*, Fr. πεντε and γωνια.] A figure with five angles.—I know of that famous piece at Capralora, caſt by Baroccio into the form of a *pentagon* with a circle inſcribed. *Wotton.*

(2.) PENTAGON, in geometry, is a figure of five ſides and five angles. See GEOMETRY.

(3.) PENTAGON, in fortification, denotes a fort with five baſtions.

* PENTAGONAL. *adj.* [from *pentagon*.] Quinquangular; having five angles.—The body being cut tranſverſely, its ſurface appears like a net made up of *pentagonal* meſhes, with a *pentagonal* ſtar in each meſh. *Woodward.*

PENTAGONOTHECA, in botany, the name given by Vaillant to the plant called by Linnæus, Plumier, Houſton, and others, PISONIA.

(1.) PENTAGRAPH, *n. ſ.* an inſtrument deſigned for drawing figures in what proportion you pleaſe, without any ſkill in the art. See MINIATURE, § 2. The inſtrument is otherwiſe called a PARALLELOGRAM. The common pentagraph (*Plate* CCLXV, *fig.* 13.) conſiſts of 4 braſs or wooden rulers, two of them from 15 to 18 inches long, the other two half that length. At the ends, and in the middle, of the longer rulers, as alſo at the ends of the ſhorter, are holes, upon the exact fixing whereof the perfection of the inſtrument chiefly depends. Thoſe in the middle of the long rulers are to be at the ſame diſtance from thoſe at the end of the long ones, and thoſe of the ſhort ones; ſo that when put together, they may always make a parallelogram. The inſtrument is fitted together for uſe by ſeveral little pieces, particularly a little pillar, N° 1. having at one end a ſcrew and nut, whereby the two long rulers are joined; and at the other a little knot for the inſtrument to ſlide on. The piece, N° 2. is a rivet with a ſcrew and nut, wherewith each ſhort

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ſhort ruler is faſtened to the middle of each long one. The piece, N° 3. is a pillar, one end whereof, being hollowed into a ſcrew, has a nut fitted to it. At the other end is a worm to ſcrew into the table; when the inſtrument is to be uſed, it joins the ends of the two ſhort rulers. The piece, N° 4. is a pen, portcrayon, or pencil, ſcrewed into a little pillar. Laſtly, the piece, N° 5. is a braſs point, moderately blunt, ſcrewed likewiſe into a little pillar.

(2.) PENTAGRAPH, METHOD OF USING THE. I. To copy a deſign in the ſame ſcale or bigneſs as the original: ſcrew the worm N° 3. into the table; lay a paper under the pencil N° 4. and the deſign under the point N° 5. This done, conducting the point over the ſeveral lines and parts of the deſign, the pencil will draw or repeat the ſame on the paper. II. If the deſign be to be reduced—*e. g.* into half the ſpace, the worm muſt be placed at the end of the long ruler, N° 4. and the paper and pencil in the middle. In this ſituation conduct the braſs point over the ſeveral lines of the deſign, as before; and the pencil at the ſame time will draw its copy in the proportion required; the pencil here only moving half the lengths that the point moves. Hence, on the contrary, if the deſign be to be enlarged by one half, the braſs point, with the deſign, muſt be placed in the middle, at N° 3. the pencil and paper at the end of the long ruler, and the worm at the other. III. To enlarge or reduce in other proportions, there are holes drilled at equal diſtances on each ruler, *viz.* all along the ſhort ones, and half way of the long ones, in order for placing the braſs point, pencil, and worm, in a right line therein; *i. e.* if the piece carrying the point be put in the third hole, the two other pieces muſt be put in its third hole. If, then, the point and deſign be placed at any hole of the great rulers, and the pencil with the paper at any hole of the ſhort ruler, which forms the angle therewith, the copy will be leſs than half the original. On the contrary, if it be placed at one of the holes of that ſhort ruler, which is parallel to the long ruler, the copy will be greater than half the original. The conſtruction of this inſtrument requires a degree of accuracy which moſt of our inſtrument-makers are ſtrangers to; for which reaſon, there are very few of the inſtruments that ſucceed. Few will do any thing tolerably but ſtraight lines; and many of them not even theſe. To prove that the figure deſcribed by a pentagraph is ſimilar to the given figure, let C (*fig.* 14.) be the fixed centre of motion; P the pencil for tracing the given figure PP, and *p* the pencil which traces the other figure *pp*; *p*, &c. muſt be ſo adjuſted, that *p*, C, and P, may lie in one ſtraight line; then, ſince B*p*: A*p*:: BP: AC, whatever be the ſituation of the pentagraph, the angles PCP and *p*C*p* are vertical; and therefore PC*p* will in every poſition of the inſtrument be a right line: but PC: *p*C:: BA: A*p*, in each of the two poſitions in the figure, and conſequently the triangles PCP, *p*C*p*, are ſimilar; and PP: *pp* (:: PC: *p*C) :: BA: A*p*, or in a given ratio. Hence it appears, that, by moving the pencil *p*, A*p* may be equal to BA, or leſs in any proportion: and conſequently *pp* may be equal to PP, or leſs, in the ſame proportion.

PENTAGYNIA, [from πεντε, *five*, and γυνη, *woman*, or *wife*,] in the Linnæan Syſtem of Botany, an order in the claſſes Pentandria, Decandria, Dodecandria, Icoſandria, and Polyandria conſiſting of plants which have hermaphrodite flowers, with 5 female organs. See BOTANY, 180, 185, 186, 187, 188.

PENTALUPO, a town of Naples, in Calabria Ultra, 6 miles E. of Reggio.

(1.) * PENTAMETER. *n. ſ.* [*pentametre*, Fr. *pentametrum*, Lat.] A Latin verſe of five feet. Mr Diſtich may poſſibly play ſome *pentameter* upon us, but he ſhall be anſwered in Alexandrines. *Addiſon.*

(2.) PENTAMETER VERSE. The two firſt feet may be either dactyls or ſpondees at pleaſure; the third is always a ſpondee; and the two laſt are peſts: ſuch is the following verſe of Ovid.

1 2 3 4 5
Carmini|bus vi|ves tem|pus in o|mne meis.

A pentameter verſe ſubjoined to an hexameter conſtitutes what is called *elegiac*. See ELEGIAC.

(1.) PENTANDRIA, [from πεντε, *five*, and ανηρ, *a man*, or *huſband*,] the fifth claſs in Linnæus's ſexual method, conſiſting of plants which have hermaphrodite flowers, with five ſtamina or male organs. See BOTANY, *Index*.

(2.) PENTANDRIA is alſo the name of an order in the claſſes Monadelphia, Diadelphia, Polyadelphia, Gynandria, Monoecia, and Dioecia. See BOTANY, § 191, 192, 193, 195, 196, 197.

* PENTANGULAR. *adj.* [πεντε and angle, Lat.] Five-cornered.—His thick and bony ſcales ſtand in rows, ſo as to make the fleſh almoſt *pentangular*. *Grew.*

(1.) * PENTAPETALOUS. *adj* [πεντε and πεταλον, Lat.] Having five petals or leaves.

PENTAPETES, in botany, a genus of the decandria order, belonging to the monadelphia claſs of plants; and in the natural method ranking under the 37th order, *Columniferæ*. The calyx is quinquepartite; the ſtamina are 20 in number, of which five are caſtrated and long; the capſule quinquelocular and polyſpermous. There is but one ſpecies known; viz.

PENTAPETES PHOENICIA, with halbert-ſhaped, ſpear-ſhaped, ſawed leaves. It is an annual plant, a native of India, and riſes to 2 or 3 feet, adorned with fine ſcarlet flowers, conſiſting of one petal cut into five ſegments. In the center of the flower ariſes a ſhort thick column, to which adhere 15 ſhort ſtamina. It is a tender annual, and muſt be brought up in the hot-houſe.

(1.) PENTAPOLIS, a name given to the five cities, Sodom, Gomorrah, Admah, and Zeboim and Zoar. (Wiſdom x. 6.) They were all condemned to utter deſtruction, but Lot intercided for the preſervation of Zoar, otherwiſe called *Bela*. The other 4 were deſtroyed by fire (Gen. xix. 24. 25.) and in the place where they ſtood aroſe the lake Aſphaltites, or the lake of Sodom.

(2.) PENTAPOLIS, a diſtrict of Cyrenaica, ſituated on the Mediterranean; denominated from five cities; namely, Berenice, Arſinoe, Ptolemais, Cyrene, and Apollonia. *Ptol.*

(3.) PENTAPOLIS OF THE PHILISTINES

cities of the Philistines, Gaza, Gath, Ascalon, Azotus, and Ekron.

*PENTASPAST. *adj.* [*pentaspaste*, Fr. πεντε σπαστος.] An engine with five pullies. *Dict.*

*PENTASTICK. *n. s.* [πεντε and στιχος.] A composition consisting of five verses.

*PENTASTYLE. *n. s.* [πεντε and στυλος.] In architecture, a work in which are five rows of columns. *Dict.*

*PENTATEUCH. *n. s.* [πεντε and τευχος; *pentateque*, Fr.] The five books of Moses.—The more frequent mention of the angels in the ensuing part of the *pentateuch* makes no such consequent mention of the angels. *Bentley.*

PENTATEUCH is derived from the Greek πεντατευχος, from πεντε, *five*, and τευχος, an *instrument* or *volume*; and signifies the collection of the five instruments or books of Moses, viz. GENESIS, EXODUS, LEVITICUS, NUMBERS, and DEUTERONOMY. See these articles.

PENTATHLON, or PENTATHLUM, } in antiquity, a general name for the five exercises performed at the Grecian games, *viz.* wrestling, leaping, running, and playing at the

*PENTECOST. *n. s.* [πεντηκοστη; *pentacoste*, Fr.] 1. A feast among the Jews.—*Pentecost* signifies the fiftieth, because this feast was celebrated the 50th day after the 16th of Nisan, which was the 2d day of the feast of the passover: the Jews call it the feast of weeks, because it was seven weeks after the passover: they then offered the first fruits of the wheat harvest, which then was completed: it was instituted to oblige the Jews to repair to the temple, there to acknowledge the Lord's dominion, and also to render thanks to God for the law he had given them on mount Sinai, on the fiftieth day after their coming out of Egypt. *Calmet.* 2. Whitsuntide.—

'Tis fierce the nuptial of Lucentio,
Come *pentecost* as quickly as it will,
Some five and twenty years. *Shak.*

PENTECOST. At this feast the Jews also offered at the temple seven lambs of that year, one calf, and two rams, for a burnt offering; two lambs for a peace offering; and a goat for a sin offering. (Levit. xxiii. 15, 16. Exod. xxxiv. 22. and Numb. 9, 10.) The modern Jews celebrate Pentecost for two days. They deck the synagogue and their own houses with garlands of flowers. They hear a sermon in praise of the law, which they suppose to have been delivered on this day. The Jews of Germany make a very large cake, consisting of 7 layers of paste, which they call *Shai*. The 7 layers represent the 7 heavens which they think God reascended from the top of this mountain. (See *Leo de Modena* and *Buxtorf. Jud.*) It was on the feast of pentecost that the Holy Ghost miraculously descended on the apostles. (Acts ii.)

PENTECOST, an island in the Archipelago of the Great Cyclades. It was discovered by Quiros on Pentecost day, 22d May, 1768. It is 6 miles from Aurora Island. Lon. 165. 58. E. Paris. Lat. 15. 8. S.

PENTECOSTAL. *adj.* [from *pentecost*.] belonging to Whitsuntide.—I have composed suitable collects, made up out of the church collects with some little variation; as the collects adventual, quadragesimal, paschal or *pentecostal*. *Sanderson.*

PENTECOSTE, a river of Canada, which runs into the St Lawrence, in Lon. 66. 45. W. Lat. 49. 45. N.

PENTELICUS, a mountain of Attica, famous for beautiful marble.

PENTHESILEA, queen of the AMAZONS, succeeded Orythia, and gave proofs of her courage at the siege of Troy, where she was killed by Achilles. Pliny says that she invented the battle-axe.

PENTHEUS, in fabulous history, the son of Ethion and Agave, king of Thebes, in Bœotia. He was murdered by the Bacchanalian women, for opposing the worship of Bacchus, then newly introduced; tho' others say it was for prying into the mysteries of the new deity. His mother and his aunts, Ino and Autonoe, were the first to tear him to pieces. (*Ovid, Met.* iii. fab. 7, 8, 9. *Virg. Æn.* iv. 469.) See MYSTERIES, § 25.

PENTHIER, a cape on the W. coast of France, 7½ miles SE. of St Matthieu. Lon. 13. 3. E. Ferro. Lat. 48. 15. N.

PENTHIEVRE, a fort of France, in the dep. of Morbihan, on the peninsula of Quiberon; 7 miles N. of Quiberon, and 9 S. of Auray.

PENTHILUS, a son of Orestes and Erigone, the daughter of Ægysthus: who reigned conjunctly with his brother Tisamenes at Argos, till they were expelled by the HERACLIDÆ. He then went to Achaia, and thence to Lesbos, where he planted a colony. *Paus.* 4. *Paterc.* 1. c. 1.

PENTHORUM, in botany, a genus of the pentagynia order, belonging to the pentandria class of plants. The calyx is quinquefid; there are either 5 petals or none; the capsule is five-pointed and quinquelocular.

* PENTHOUSE. *n. s.* [*pent*, from *pente*, Fr. and *house*.] A shed hanging out aslope from the main wall.—This is the *penthouse* under which Lorenzo desir'd us to make a stand. *Shak.*—

Sleep shall neither night nor day
Hang upon his *penthouse* lid. *Shak.*

—The Turks lurking under their *penthouse*, laboured with mattocks to dig up the foundation of the wall. *Knolles.*—Those defensive engines, made by the Romans into the form of *penthouses* to cover the assailants from the weapons of the besieged, would be presently batter in pieces with stones and blocks. *Wilkins.*—

My *penthouse* eye-brows, and my shaggy beard,
Offend your sight. *Dryden.*
The chill rain
Drops from some *penthouse* on her wretched head. *Rowe.*

PENTHYLUS, a king of Paphos, who assisted Xerxes with 12 ships. Being seized by the Greeks, he gave them much useful information as to the situation of the Persians. *Herod.* vii. 195.

* PENTICE. *n. s.* [*appentir*, French; *pendice*, Italian. It is commonly supposed a corruption of *penthouse*; but perhaps *pentice* is the true word.] A sloping roof.—Climes that fear the falling and lying of much snow, ought to provide more inclining *pentices*. *Wotton.*

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PENTIDATILO, a town of Naples, in Calabria Ultra; 12 miles SE. of Reggio.

* PENTILE. *n. f.* [*pent* and *tile*.] A tile formed to cover the sloping part of the roof: they are often called pantiles.—*Pentiles* are 13 inches long, with a button to hang on the laths; they are hollow and circular. *Moxon.*

PENTIMA, a town of Naples, in Abruzzo Citra; 5 miles NW. of Solmona.

PENTLAND, or PICTLAND, names given to a frith, a ridge of hills, and several islands of Scotland, in very different parts of the kingdom. These names appear to have the same derivation; *Pentland* being only a variation in orthography from *Paint-land*, and *Pictland* being undoubtedly derived from *Picti*, the name given by the Romans to our ancestors, the *Picts*, because, like some other savage nations, they *painted* their bodies. See PICTS.

1. PENTLAND FRITH, or PICTLAND FRITH, a narrow strait of 12 miles between the main land of Scotland and the Orkney isles. This strait is the great thoroughfare of shipping between the E. and W. seas, the terror of the boldest mariners, and the grave of thousands. By the meeting of many different tides, the sea runs with such impetuosity, that no vessel can withstand it. The spray is often driven several miles on land. These storms, however, afford many natives on the opposite shores a better livelihood than they could obtain by fishing or husbandry. They search from place to place, and from one cavern to another, in the hopes of finding timber, casks, and other floating articles of the wrecked vessels, of which 6 or 8 are often sacrificed in one night. The navigation of this pass is rendered more dangerous by the island of Stroma, and two rocks called the SKERRIES, lying near the middle of it. (See N° 3.) It may be crossed and sailed through, however, without danger, at particular times, known to the pilots on that coast. But if the proposed canal from Inverness to Fort William were carried into execution, all danger from this circuitous navigation would be prevented.

2. PENTLAND HILLS, a ridge of hills which begin about 4 miles S. by W. of Edinburgh, and extend 10 miles W. towards the W. borders of Mid Lothian. They are mostly green to the top, and afford excellent pasture to numerous flocks of sheep. The valleys between them are watered by several romantic streams; particularly the *North Esk*, *Glencross*, and *Logan water*. Some of the hills are very high. *Carketon Craig*, the most northern is 1450 feet above the sea level; *Capelaw*, W. of it, is 1550; and *Logan-house* hill is 1700 In this last is found the stone called PETUNSE PENTLANDICA, from its resemblance to the materials used in China for making china wares. The hills of *Braid* and *Blackford* are a continuation of this ridge.

3. PENTLAND SKERRIES, three islands in the E. end of Pentland Frith; on the largest of which two light-houses were erected in 1794; 4 miles NE. of Duncan's-bay Head. Lon. 0. 25. E. of Edinburgh. Lat. 58. 35. N.

PENTSTEMON. See CHELONE, N° 3.

* PENT UP. *part. adj.* [*pent*, from *pen* and *up*.] Shut up.—

Close *pent up* guilts
Rive your concealing continents. *K. Le*

PENVENAN, a town of France, in the de of the North Coasts; 3 miles NW. of Tregui and 7½ NE. of Lannion.

PENULA, among the ancient Romans, wa coarse garment or cloak worn in cold or ra weather. It was shorter than the lacerna, a therefore more proper for travellers. It was ge rally brown, and succeeded the toga after the fi became monarchical. Augustus abolished the c tom of wearing the penula over the toga, consid ing it as too effeminate for Romans; and the diles had orders to suffer none to appear in circus or forum with the lacerna or pen Writers are not agreed as to the precise differe between these two articles of dress; but we told that they were chiefly worn by the lowe ders of people. See LACERNA.

PENULTIMA, or PENULTIMATE SYLLA in grammar, the last syllable but one of a wo

* PENULTIMATE. *adj.* [*penultimus*, Lat.] but one.

(1.) * PENUMBRA. *n. f.* [*pene* and *umbra*, L An imperfect shadow, that part of the sha which is half light.—The breadth of this im answered to the sun's diameter, and was ab two inches and the eighth part of an inch, incl ing the *penumbra*. *Newton.*

(2.) PENUMBRA, in astronomy, is a partial sh observed between the perfect shadow and the light in an eclipse. It arises from the magnitud the sun's body: for were he only a luminous po the shadow would be all perfect; but, by re of the diameter of the sun, it happens, that a p which is not illuminated by the whole body of sun, does yet receive rays from a part thereof

* PENURIOUS. *adj.* [from *penuria*, Latin] Niggardly; sparing; not liberal; fordidly mea

What more can our *penurious* reason gra
To the large whale or castled elephant? *A*

2. Scant; not plentiful.—

Some *penurious* spring by chance appear's
Scanty of water. *Ad*

* PENURIOUSLY. *adv.* [from *penurious*.] S ringly; not plentifully.

* PENURIOUSNESS. *n. f.* [from *penurious* Niggardliness; parsimony.—If we consider th finite industry and *penuriousness* of that peopl is no wonder that, notwithstanding they pa as great taxes as their neighbours, they ma better figure. *Addison.* 2. Scantiness; not ple

* PENURY. *n. f.* [*penuria*, Lat.] Poverty; digence.—The *penury* of the ecclesiastical el *Hooker.*—

Thy great mother Venus first thee bare,
Begot of plenty and of *penury*. *Sp*
Crushing *penury*
Persuades me, I was better when a king;
Then I am king'd again. *Shak. Richard*

—All innocent they were exposed to hardship *penury*. *Spratt.*—

Still to divert the good design'd,
Or with malignant *penury*
To starve the royal virtues of his mind.
May they not justly to our climes upbra
Shortness of night, and *penury* of shade? *P*

PENZA, a town of Russia, capital of the p

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of Penzenſkoe, near the Sura; 316 miles ESE. of Moſcow, and 644 SE. of Peterſburg. Lon. 63. 24. E. Ferro. Lat. 53. 30. N.

PENZANCE. See PENSANCE.

PENZENSKOE, a province of Ruſſia, bounded N. by Nizegorodſkoe, E. by Simbirſkoe, S. by Saratofkoe, and W. by Tambovſkoe; 172 m. long from E. to W. and from 40 to 60 broad, from N. to S. PENZA is the capital. Lon. 60. 10. to 65. 10. E. Ferro. Lat. 52. 40. to 54 36. N.

PENZINSKAIA, a gulf of Ruſſia, at the N. end of Penzinſkoe Sea. Lon. 180. 0. E. Lat. 61° to 62° N.

PENZINSKOE SEA, a large bay of the N. Pacific Ocean, between Ruſſia and Kamtſchatka, NE. of Ochotſk; about 130 miles long, and from 120 to 160 broad. Lon. 170° to 179° E. Ferro. Lat. 58° to 62° N.

PENZLEIN, a town of Mecklenburg; 37 miles SE. of Guſtrow, and 53 E. of Stettin.

PEON, in the language of Hindoſtan, a foot ſoldier, armed with ſword and target. In common uſe, it is a footman, ſo armed, employed to run before a palanquin. *Pjada* is the proper word, of which *peon* is a corruption.

(1.)* PEONY. *n. ſ.* [*paonia*, Latin.] A flower. *Miller.*—A phyſician had often tried the *peony* root unſeaſonably gathered without ſucceſs. *Boyle.*

(2.) PEONY, or PIONY. See PÆONIA, N° 2.

(3.)* PEOPLE. *n. ſ.* [*peuple*, Fr. *populus*, Lat.] 1. A nation; theſe who compoſe a community. In this ſenſe is read *peoples*.—Prophéſy again before many *peoples* and nations and tongues. *Rev.* x. 11.—Ants are a *people* not ſtrong, yet they prepare their meat in ſummer. *Prov.* xxx. 25.—

What is the city but the *people?*
True, the *people* are the city. *Shak. Coriol.*

2. The vulgar.—

I muſt like beaſts or common *people* die,
Unleſs you write my elegy. *Cowley.*

The knowing artiſt may
Judge better than the *people*. *Waller.*

3. The commonalty; not the princes or nobles.—

The *people* call'd them
Time-pleaſers, flatterers. *Shak.*

Myſelf ſhall mount the roſtrum in his favour,
And ſtrive to gain his pardon from the *people*.
Addiſon.

4. Perſons of a particular claſs.—If a man temper his actions to content every combination of *people*, he muſick will be the fuller. *Bacon.*—A ſmall red flower in the ſtubble fields country *people* call the coccopipe. *Bacon.* 5. Men, or perſons in general. In this ſenſe, the word *people* is uſed indefinitely, like *on* in French.—The frogs petitioning for a king, bid *people* have a care of ſtruggling with heaven. *L'Eſtrange.*—*People* were tempted to ſend by great premiums and large intereſt. *Raleigh.*—*People* have lived 24 days upon nothing but water. *Arbuthnot.*—*People* in adverſity ſhould preſerve laudable cuſtoms. *Clariſſa.*

(4.) PEOPLE. See MORTALITY BILLS, § 2-7; POLITICAL ARITHMETIC, and POPULATION.

* To PEOPLE. *v. a.* [*peupler*, Fr.] To ſtock with inhabitants.—Suppoſe that Brute, or whoſoever elſe that firſt *peopled* this iſland, had arrived upon Thames, and called the iſland after his name Britain. *Raleigh's Hiſtory.*—

He would not be alone, who all things can;
But *peopled* Heav'n with angels, earth with man.
Dryden.

Beauty a monarch is,
Which kingly power magnificently proves
By crouds of ſlaves, and *peopled* empire loves.
Dryden.

A *peopl'd* city made a deſert place. *Dryden.*

Imperious death directs his ebon lance;
Peoples great Henry's tombs. *Prior.*

(1.) PEOR, a famous mountain beyond Jordan, which Euſebius places between Heſhbon and Livias. The mountains Nebo, Piſgah, and Peor, were near one another, and probably made the ſame chain. It is very likely that Peor took its name from ſome deity, for Peor, Phegor, or Baal-peor, was worſhipped in this country. See Numb. xxv. 3. Deut. iv. 3. Pſal. cv. 28. and BAAL-PEOR.

(2.) PEOR, a city of Judah, which is not mentioned in the Hebrew, nor in the Vulgate, but only in the Greek of the Septuagint. (Joſh. xv. 60.) Euſebius ſays it was near Bethlehem, and Jerom adds, that in his time it was called *Paora*.

PEPARETHOS, an iſland in the Ægean Sea, on the coaſt of Macedonia, 20 miles in circumference; famous for excellent wine and olives. *Plin.* iv. 12. *Ovid. Met.* vii, 470. *Liv.* 28, 5.

* PEPASTICKS. *n. ſ.* [πεπαστικὸν.] Medicines which are good to help the rawneſs of the ſtomach and digeſt crudities. *Dict.*

PEPCHIDIACHIC, or PEPCHIDICHI, a cape of New Brunſwick, on Chaleurs Bay.

PEPECHAISSINAGAN, a river of Canada, which runs into the St Lawrence: in Lon. 68. 55. W. Lat. 48. 26. N.

PEPHNOS, a town of Laconia. *Paſ.* iii, 26.

(1.) PEPIN DE HERISTAL, or LE GROS, mayor of the palace under Clovis III. Childebert, and Dagobert III. (See FRANCE, § 9.) The power of theſe mayors in France was ſo great, that they left the ſovereign only the empty title, and in the end ſeized on the throne itſelf.

(2.) PEPIN LE PETIT, or LE BRIEF, (*i. e. the ſhort*,) grandſon to Pepin le Gros, and firſt king of the ſecond race of French monarchs, was mayor of the palace to Childeric III. a weak prince: he contrived to confine him and his ſon, Theodoric, in different monaſteries; and then, with the aſſiſtance of pope Stephen III. he uſurped the ſovereign power. He died in 768, aged 54. See FRANCE, § 10—12.

(3.) PEPIN, king of Italy. See FRANCE, § 16.

PEPLIS, in botany, a genus of the monogynia order, belonging to the hexandria claſs of plants; and in the natural method ranking under the 17th order, *Calycanthemæ*. The perianthium is campanulated; the mouth cleft in 12 parts; there are ſix petals inſerted into the calyx; the capſule is bilocular.

PEPLOUD, a town of Hindooſtan, in Candeiſh; 80 miles S. of Indore, and 30 NE. of Burhampour.

PEPLUS, a long robe worn by the women in ancient times, reaching down to the feet, without ſleeves, and ſo very fine, that the ſhape of the body might be ſeen through it. The Athenians uſed much ceremony in making the peplus, and dreſſing the ſtatue of Minerva with it. Homer makes frequent mention of the peplus of that goddeſs.

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PEPONG, two islands in the E. Indian Ocean, near the coast of China. Lon. 124. 46. E. Ferro. Lat. 23. 22. N.

PEPOZIANS, a sect of Christian heretics, who sprung up in the 2d century; a branch of the MONTANISTS.

(1.) * PEPPER. *n. s.* [*piper*, Lat. *poivre*, Fr.] We have three kinds of *pepper*; the black, the white, and the long, which are three different fruits produced by three distinct plants: black *pepper* is a dried fruit of the size of a vetch and roundish, but rather of a deep brown than a black colour: with this we are supplied from Java, Malabar and Sumatra, and the plant has the same heat and fiery taste that we find in the *pepper*: white *pepper* is commonly factitious, and prepared from the black by taking off the outer bark, but there is a rarer sort, which is a genuine fruit naturally white: long *pepper* is a fruit gathered while unripe and dried, of an inch or an inch and half in length, and of the thickness of a large goose quill. *Hill.*—

Scatter o'er the blooms the pungent dust
Of *pepper*, fatal to the frosty tribe. *Thomson.*

(2.) PEPPER, PIPER, in natural history, an aromatic berry of a hot dry quality, chiefly used in seasoning. Pepper is principally used by us in food, to assist digestion: but the people in the East Indies esteem it as a stomachic, and drink a strong infusion of it in water by way of giving them an appetite: they have also a way of making a fiery spirit of fermented fresh pepper with water, which they use for the same purposes. They have also a way of preserving the common and long pepper in vinegar, and eating them afterwards at meals. There are 3 kinds of pepper at present used in shops, the black, the white, and the long pepper.

I. PEPPER, BLACK, is the fruit of the piper, and is brought from the Dutch settlements in the East Indies. See PIPER.

II. PEPPER, LONG, is a dried fruit, of an inch or an inch and an half in length, and about the thickness of a large goose quill: it is of a brownish grey colour, cylindrical in figure, and produced on a plant of the same genus.

III. PEPPER, WHITE, is factitious, being prepared from the black in the following manner: they steep this in sea-water, exposed to the heat of the sun for several days, till the rind or outer bark loosens; they then take it out, and, when it is half dry, rub it till the rind falls off; then they dry the white fruit, and the remains of the rind blow away like chaff. A great deal of the heat of the pepper is taken off by this process, so that the white kind is more fit for many purposes than the black. However, there is a sort of native white pepper produced on a species of the same plant; which is much better than the factitious, and indeed little inferior to the black.

(3.) PEPPER, BARBARY. See CAPSICUM, N° 6.
(4.) PEPPER, BELL. See CAPSICUM, N° 10.
(5.) PEPPER, BIRD. See CAPSICUM, N° 7.
(6.) PEPPER, GUINEA. See CAPSICUM, N° 1.
(7.) PEPPER, HEN. See CAPSICUM, N° 4.
(8.) PEPPER, JAMAICA. See MYRTUS, N° II, § 2; and PIMENTO.
(9.) PEPPER, POOR MAN'S. See LEPIDIUM.
(10.) PEPPER TREE. See AVA-AVA; MIDDLEBURG, N° 3; and VITIS.
(11.) PEPPER, WALL. See SEDUM, N° 1.
(12.) PEPPER, WATER, a species of POLYGONUM.
(13.) PEPPER, WATER, a liquor prepared by putting common black pepper, grossly powdered into an open vessel of water. In a few days it acquires a pellicle or thin surface which is composed entirely of animalcules excellently adapted for microscopical observation.

* *To* PEPPER. *v. a.* [from the noun.] 1. To sprinkle with pepper. 2. To beat; to mangle with shot or blows.—I have *peppered* two of them; two I have paid, two rogues in buckram suits. *Shak. Henry* IV.

PEPPER BAY, a bay on the W. coast of Java, 30 miles SSW. of Bantan.

PEPPERBERG, a town of Java, on the coast, 75 miles S. of Batavia.

* PEPPERBOX. *n. s.* [*pepper* and *box*.] A box for holding pepper.—I will not take the lead he cannot creep into a halfpenny purse, nor into a *pepperbox*. *Shak.*

* PEPPERCORN. *n. s.* [*pepper* and *corn*.] A thing of inconsiderable value.—Our performances though dues, are like those *peppercorns* which tenholders pay their landlord to acknowledge that they hold all from him. *Boyle.*—

Folks from mud-wall'd tenement
Bring landlords *peppercorn* for rent.

PEPPERELL, a township of Massachusetts on the Nashuay, 40 miles N. by W. of Boston; containing 1132 citizens in 1795.

PEPPERELLBOROUGH, a township of Maine in York county, containing 1352 citizens in 1795, seated on the NE. bank of the Saco, 12 miles S. of Portland, and 109 N. of Boston.

PEPPER GRASS. See PILULARIA.

(1.) * PEPPERMINT. *n. s.* [*pepper* and *mint*; *piperitis*.] Mint eminently hot.

(2.) PEPPER-MINT. See MENTHA, N° 6.

(3.) PEPPER-MINT TREE, in botany, the *Leptospermum piperita*. In a journal of a voyage to New South Wales, by John White, Esq; we have a plate of this tree, (See *Plate* 272.) with the following account of it: "This tree grows to the height of more than 100 feet, and is about 20 feet in circumference. The bark is very smooth like that of the popiar. The younger branches are long and slender, angulated near the top, but as they grow older, the angles disappear. The bark is smooth, and of a reddish brown. The leaves are alternate, lanceolate, pointed, without, smooth on both sides, and remarkably equal or oblique at their base; the veins alternate and not very conspicuous. The whole surface of both sides of the leaves is marked with numerous minute resinous spots, in which the essential oil resides. The foot-stalks are about half an inch in length, round on the upper side, angular above, quite smooth. The flowers we have not seen. What Mr White has called as the ripe capsules of this tree (although not attached to the specimens of the leaves) are in clusters, from 6 to 8 in each, sessile and glomerated. These clusters are supported on a angular alternate footstalks, which form a kind of panicle. Each capsule is about the size

hawthorn berry, globular, but as it were cut off at the top, rugged on the outside, hard and woody, and of a dark brown colour. At the top is a large orifice, which shows the internal part of the capsule divided into four cells, and having a square column in the centre, from which the partitions of the cells arise. These partitions extend to the rim of the capsule and terminate in four small projections, which look like the teeth of a comb. The seeds are numerous, small, and angular. The name of *peppermint tree* has been given to this plant by Mr White, on account of the very great resemblance between the essential oil drawn from its leaves and that obtained from the peppermint, (MENTHA PIPERITA,) which grows in England. This oil was found by Mr White to be much more efficacious in removing all cholicky complaints than that of the English peppermint, which he attributes to its being less pungent and more aromatic. A quart of the oil has been sent by him to Mr Wilson. The tree appears to be undoubtedly of the same genus with that cultivated in some greenhouses in England, which Mr L'Heritier has described in his *Sertum Anglicum* by the name of *Eucalyptus obliqua*, tho' it is commonly called in the gardens *Metrosideros obliqua*; but we dare not assert it to be the same species, nor can this point be determined till the flowers and every part of both be seen and compared; we have compared the best specimens we could procure of each, and find no specific difference. The eucalyptus obliqua has, when dried, an aromatic savour, somewhat similar to our plant. We have remarked, indeed, innumerable minute white spots, besides the resinous ones, on both surfaces of the leaves in some specimens of the garden plant, which are not to be seen in ours; and the branches of the former are rough, with small scaly tubercles. But how far these are constant, we cannot tell. The obliquity in the leaves, one side being shorter at the base than the other, as well as somewhat narrower all the way up, as in the *Myrtus nitida* of the *Hortus Kewensis*, is remarkable in both plants. The figure represents a branch of the peppermint tree in leaf: on one side of it a part of a leaf separate, bearing the gall of some insect; on the other the fruit above described."

PEPPER-POT. See CAPSICUM.

* PEPPERWORT. *n. s.* [*pepper* and *wort*.] A plant. *Miller.*

PEPPER-WORT. See LEPIDIUM.

* PEPTICK. *adj.* [πεπτικος.] What helps digestion. *Ainsf.*

PEPUSCH, John Christopher, Mus. D. and F. R. S. one of the greatest theoretic or scientific musicians of modern times, was born at Berlin, in 1667. In 1680, when not 15 years, he had made such proficiency on the harpsichord, that he was appointed to teach music to the prince royal of Prussia. About 1700, he came over to England, and was engaged at Drury-Lane. The popularity of Handel kept him in the secondary rank; but Pepusch chose a new track for himself, and *taught Music* in the full sense of the word; *i. e.* the principles of harmony and the science of composition,—not to children or novices, but to professors of music themselves, who actually attended him, so much were his talents and judgment respected. In 1713, the University of Oxford admitted him Doctor of Music. In 1724, he accepted an offer from Dr Berkeley to go with him to Bermudas, as professor of music in his intended college; but the ship being wrecked, he returned to London, and married Frances Margaret De L'Epine, who had made a fortune of 10,000 guineas by her voice at the operas. (See MUSIC, § 72.) His fortune and reputation were now at a height. At the desire of Messrs Gay and Rich, he composed the music for the *Beggar's Opera*. In 1737, he was chosen organist for the Charter-house. In 1740, his wife died, a short time after their only son. He wrote *an Account of the Ancient Genera of Music*, which was read before the Royal Society, and published in the *Philos. Trans.* for Oct. Nov. and Dec. 1736; and was soon after chosen F. R. S. He died July 20, 1752, aged 85.

PEPY'S ISLAND, an island in the South Sea, 24 miles E. of Cape Blanco, in Patagonia. Lat. 47. 0. S.

PEPYS's ISLANDS, a name given to FALKLAND ISLANDS.

PEQUANNOCK, a river of Connecticut, which runs S. through Huntington and Stratford in Fairfield county, and falls into a bay in the Sound.

PEQUIGNY, a town of France, in the dep. of Somme, and late prov. of Picardy; seated on the Somme, 15 miles SE. of Abbeville. It is memorable for an interview between Edward IV. of England and Lewis XI. of France, in 1475, on a bridge, erected for that purpose. Lon. 2. 5. E. Lat. 49. 58. N.

PEQUOTS, a nation of North American Indians, extirpated in 1637. See CONNECTICUT, N° III, § 8.

PER, *prep.* [Lat.] By, or through; a word so completely adopted into the English language, as to be understood by the most illiterate. It is not only used in conjunction with Latin words, as *per annum*, by the year, *per diem*, by the day, *per se*, by itself, &c. but with English words, as *per bearer*, *per carrier*, *per cent*, *per margin*, &c. It is also much used in composition.

(1.) PERA, one of the suburbs of Constantinople, where ambassadors and Christians usually reside. See CONSTANTINOPLE, § 1.

(2.) PERA, a sea port town of Malacca, 170 miles NW. of Malacca.

* PERACUTE. *n. s.* [*peracutus*, Lat.] Very sharp; very violent.—Malign, continual *peracute* fevers, after most dangerous attacks, suddenly remit of the ardent heat. *Harvey.*

* PERADVENTURE. *adv.* [*par adventure*, Fr.] 1. Perhaps; may be; by chance.—That wherein they might not be like unto either, was such *peradventure* as had been no whit less unlawful. *Hooker.*—As you return, visit my house; let our old acquaintance be renew'd; *peradventure* I will with you to court. *Shak.*—What *peradventure* may appear very full to me, may appear very crude and maimed to a stranger. *Digby.* 2. Doubt; question. It is sometimes used as a noun, but not gracefully, nor properly.—Though men's persons ought

ought not to be hated, yet without all *peradventure* their practices justly may. *South.*

* *To* PERAGRATE. *v. a.* [*peragro*, Lat.] To wander over; to ramble through. *Dict.*

* PERAGRATION. *n. f.* [from *perograte.*] The act of passing through any state or space.—A month of *peragration* is the time of the moon's revolution from any part of the zodiac unto the same again, and this containeth but 27 days and 8 hours. *Brown.*—The moon has two accounts which are her months or years of revolution; one her periodic month, or month of *peragration*, which chiefly respects her own proper motion or place in the zodiack, by which she like the sun performs her revolution round the zodiack, from any one point to the same again. *Holder.*

* *To* PERAMBULATE. *v. a.* [*perambulo*, Lat.] 1. To walk through. 2. To survey, by passing through.—Persons the lord deputy should nominate to view and *perambulate* Irish territories. *Davies.* 3. To visit the boundaries of the parish.

* PERAMBULATION. *n. f.* [from *perambulate.*] 1. The act of passing through or wandering over.—The duke looked still for the coming back of the Armada, even when they were wandering and making their *perambulation* of the northern seas. *Bacon.* 2. A travelling survey.—France is a square of 550 miles traverse, thronging with such multitudes, that the general calcul, made in the last *perambulation*, exceeded 18 millions. *Howel.* 3. A district; limit of jurisdiction.—It might in point of conscience be demanded, by what authority a private person can extend a personal correction beyond the persons and bounds of his own *perambulation*? *Holyday.* 4. Survey of the bounds of the parish annually performed.

PERAMBULATOR, in surveying, an instrument for measuring distances, called also *pedometer*, *way-wiser*, and *surveying-wheel*. See PEDOMETER. It consists of a wheel AA, *Plate* CCLXVI, *fig.* 7. two feet seven inches and a half in diameter; consequently half a pole, or eight feet three inches, in circumference. On one end of the axis is a nut, three quarters of an inch in diameter, and divided into eight teeth; which, upon moving the wheel round, fall into the eight teeth of another nut *c*, fixed on one end of an iron rod Q, and thus turn the rod once round in the time the wheel makes one revolution. This rod, lying along a groove in the side of the carriage of the instrument, under the doted line, has at its other end a square hole, into which is fitted the end *b* of a small cylinder P. This cylinder is disposed under the dial-plate of a movement, at the end of the carriage B, in such a manner as to be moveable about its axis; its end *a* is cut into a perpetual screw, which falling into the 32 teeth of a wheel perpendicular thereto, upon driving the instrument forward, that wheel makes a revolution each 16th pole. On the axis of this wheel is a pinion with six teeth, which, falling into the teeth of another wheel of 60 teeth, carries it round every 160th pole, or half a mile. This last wheel, carrying a hand or index round with it over the divisions of a dial-plate, whose outer limb is divided into 160 parts, corresponding to the 160 poles, points out the number of poles passed over. Again, on the axis of this last wheel is a pinion, containing 20 teeth, which falling into the teeth of a third wheel which hath 40 teeth, drives it once round in 320 poles, or a mile. On the axis of this wheel is a pinion of 12 teeth, which falling into the teeth of a 4th wheel having 72 teeth, drives it once round in 12 miles. This 4th wheel, carrying another index over the inner limb of the dial-plate, divided into 12 for miles, and each mile subdivided into halves, quarters, and furlongs, serves to register the revolutions of the other hand, and to keep account of the half miles and miles passed over as far as 12 miles. The use of this instrument is obvious from its construction. Its proper office is in the surveying of roads and large distances, where a great deal of expedition, and not much accuracy, is required. It is evident, that driving it along and observing the hands, has the same effect as dragging the chain and taking account of the chains and links. Its advantages are its hardiness and expedition; the contrivance is such, that it may be fitted to the wheel of a coach, in which state it performs its office, and measures the road without any trouble at all.

PERASTA, a town of Turkey, in Romania.

PERCA, the PERCH; a genus of fishes belonging to the order of thoracici. The head is furnished with scaly and serrated opercula; there are seven rays in the membrane of the gills; and the fins on the back are prickly. There are 38 species, principally distinguished by peculiarities in the back fin. The most remarkable are these:

1. PERCA CERNUA, the POPE, or *ruffe*, is found in several English streams: it is gregarious, assembling in large shoals, and keeping in the deepest part of the water. It is of a much more slender form than the perch, and seldom exceeds six inches in length. The teeth are very small, and disposed in rows. It has only one dorsal fin, extending along the greatest part of the back; the first rays, like those of the perch, are strong, sharp, and spiny; the others soft. The body is covered with rough compact scales. The back and sides are of a dirty green, the last inclining to yellow, but both spotted with black. The dorsal fin is spotted with black; the tail marked with transverse bars.

2. PERCA FLUVIATILIS, or common perch, hath a deep body, very rough scales, and the back much arched. The colours are beautiful; the back and part of the sides being of a deep green, marked with five broad black bars pointing downwards; the belly is white, tinged with red; the ventral fins of a fine scarlet; the anal fins and tail of the same colour, but rather paler. In a lake called *Llyn Raithlyn*, in Merionethshire in Wales, is a very singular variety of this fish; the back part is quite hunched, and the lower part of the back-bone next the tail strangely distorted: in colour and other respects it resembles the common perch, which are as numerous in this lake as the deformed fish. They are not peculiar to this water; for Linnæus takes notice of them in a lake at Fahlun in his country. It is said that they are also met with in the Thames near Marlow. The perch was much esteemed as food by the Romans, nor is it less admired at present as a firm and delica-

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ferate fish; and the Dutch are particularly fond of it when made into a dish called *water-souchy*. It is a gregarious fish; and loves deep holes and gentle streams; is exceedingly voracious, and an eager biter: if the angler meets with a shoal of them, he is sure of taking every one.—The perch is very tenacious of life, and has been known to survive a journey of 60 miles in dry straw. It seldom grows to a large size, though Mr Pennant mentions one that weighed 9 lb. but this is very uncommon.

3. PERCA LABRAX, the *basse*, is a very voracious, strong, and active fish. Ovid calls them *nobile lupi*, a name continued to them by after writers; and they are said to grow to the weight of 15 lb. The irides are silvery; the mouth large; the teeth are situated in the jaws, and are very small: in the roof of the mouth is a triangular rough space, and just at the gullet are two others of a roundish form. The scales are of a middling size, are very thick set, and adhere closely. The body is formed somewhat like that of a salmon. The colour of the back is dusky, tinged with blue. The belly is white. In young fish the space above the side line is marked with small black spots. It is esteemed a very delicate fish.

4. PERCA MARINA, the *sea perch*, is about a foot long: the head large and deformed; eyes great; teeth small and numerous. On the head and covers of the gills are strong spines. The colour red, with a black spot on the covers of the gills, and some transverse dusky lines on the back. It is a fish held in some esteem at the table.

5. PERCA NILOTICA, the *perch of the Nile*, is taken about Cairo. The flesh has a sweet and excellent flavour, and is not hard, but very white. It is one of the best fishes in the Nile; and as it is of the largest size in Egypt, it adorns a table if brought upon it entire and well fried. See PILOT-FISH.

* PERCASE. *adv.* [*par* and *case*.] Perchance; perhaps. Not used.—A virtuous man will be virtuous in solitudine, and not only in theatro, tho' perchance it will be more strong by glory and fame, the heat which is doubled by reflexion. *Bacon.*

* PERCEANT. *adj.* [*perçant*, Fr.] Piercing; penetrating. Obsolete.—

Wond'rous quick and *perceant* was his spright,
As eagle's eyes that can behold the sun. *Spenser.*

* PERCEIVABLE. *adj.* [from *perceive*.] Perceptible; such as falls under perception.—The ship, though it really moves, yet not changing perceivable distance with some other bodies, as that of the ideas of our own minds will follow one another, seems to stand still; as the hands of a clock. *Locke.*—That which we perceive when we see figure, as *perceivable* by sight, is nothing but the termination of colour. *Locke.*

* PERCEIVABLY. *adv.* [from *perceivable*.] In such a manner as may be observed or known.

* To PERCEIVE. *v. a.* [*percipio*, Lat.] 1. To discover by some sensible effects.—

Consider,
When you above *perceive* me like a crow,
That it is place which lessens and sets off. *Shak.*

To know; to observe.—Jesus *perceived* in his heart, that they so reasoned within themselves. *Mark*, ii.—They are brought low, but he *perceiveth* it not. *Job*. xiv. 21.—'Till we ourselves see it with our own eyes, and *perceive* it by our own understandings, we are still in the dark. *Locke.*—How do they come to know that themselves think, when they themselves do not *perceive* it? *Locke.* 3. To be affected by.—The upper regions of the air *perceive* the collection of the matter of tempests before the air here below. *Bacon.*

* PERCEPTIBILITY. *n. s.* [from *perceptible*.] 1. The state of being an object of the senses or mind; the state of being perceptible. 2. Perception; the power of perceiving. Not proper.—The illumination is not so bright and fulgent, as to obscure or extinguish all *perceptibility* of the reason. *More.*

* PERCEPTIBLE. *adj.* [*perceptible*, Fr. *perceptus*, Lat.] Such as may be known or observed.—No sound is produced but with a *perceptible* blast of the air, and with some resistance of the air struck. *Bacon.*—When I think, remember or abstract; these intrinsick operations of my mind are not *perceptible* by my sight, hearing, taste, smell, or feeling. *Hale.*—It perceives them immediately, as being immediately objected to and *perceptible* to the sense; as I perceive the sun by my sight. *Hale.*—In the anatomy of the mind, as of the body, more good will accrue to mankind by attending to the large, open and *perceptible* parts, than by studying too much finer nerves. *Pope.*

* PERCEPTIBLY. *adv.* [from *perceptible*.] In such a manner as may be perceived.—

The woman decays *perceptibly* every week.
Pope.

(1.) * PERCEPTION. *n. s.* [*perception*, Fr. *perceptio*, Latin.] 1. The power of perceiving; knowledge; consciousness.—Matter hath no life nor *perception*, and is not conscious of its own existence. *Bentley.*—*Perception* is that act of the mind, or rather a passion or impression, whereby the mind becomes conscious of any thing; as when I feel hunger, thirst, cold, or heat. *Watts.* 2. The act of perceiving; observation. 3. Notion; idea.—By the inventors, and their followers, that would seem not to come too short of the *perceptions* of the leaders, they are magnified. *Hale.* 4. The state of being affected by something.—Great mountains have a *perception* of the disposition of the air to tempests sooner than the vallies below. *Bacon.*—This experiment discovereth *perception* in plants to move towards that which should comfort them, though at a distance. *Bacon.*

(2.) PERCEPTION is a word which is so well understood, that it is difficult for the lexicographer to give any explanation of it. It has been called the first and most simple act of the mind by which it is conscious of its own ideas. This definition, however, is improper, as it confounds perception with consciousness; although the objects of the former faculty are things without us, those of the latter the energies of our own minds. Perception is that power or faculty by which, through the medium of the senses, we have the cognizance of objects distinct and apart from ourselves, and learn that we are but a small part in the system of nature. By what process the senses give us this information, we have endeavoured to show elsewhere. See METAPHYSICS, *Sect.* VI.

* PER-

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* PERCEPTIVE. *adj.* [*perceptus*, Lat.] Having the power of perceiving.—The ſoul is awake and ſolicited by external motions, for ſome of them reach the *perceptive* region in the moſt ſilent repoſe and obſcurity of night. *Glanville.*—Whatever the leaſt real point of the eſſence of the *perceptive* part of the ſoul does perceive, every real point of the *perceptive* muſt perceive at once. *More.*

* PERCEPTIVITY. *n. ſ.* [from *perceptive.*] The power of perception or thinking. *Locke.*

(1.) * PERCH. *n. ſ.* [*perca*, Lat. *perce*, Fr.]—The *perch* is one of the fiſhes of prey, that, like the pike and trout, carries his teeth in his mouth; he dare venture to kill and deſtroy ſeveral other kinds of fiſh: he has a hooked or hog back, which is armed with ſtiff briſtles, and all his ſkin armed with thick hard ſcales, and hath two fins on his back: he ſpawns but once a year, and is held very nutritive. *Walton.*

(2.) PERCH, in ichthyology. See PERCA.

(3.) * PERCH. *n. ſ.* [*pertica*, Lat. *perche*, Fr.] 1. A meaſure of five yards and an half; a pole. 2. [*perche*, Fr.] Something on which birds rooſt or ſit.—

For the narrow *perch* I cannot ride. *Dryden.*

(4.) PERCH, in land-meaſuring, a rod or pole of 16½ feet in length, of which 40 in length and 4 in breadth make an acre of ground. But, by the cuſtoms of ſeveral counties, there is a difference in this meaſure. In Staffordſhire it is 24 feet; and in the foreſt of Sherwood 25 feet; the foot being there 18 inches long; and in Herefordſhire a perch of ditching is 21 feet, the perch of walling 16½ feet, and a pole of denſhiered ground is 12 feet, &c.

(1.) * *To* PERCH. *v. n.* [*percher*, Fr. from the noun.] To ſit or rooſt as a bird.—

He *perch'th* on ſome branch thereby,
To weather him. *Spenſer.*

Wrens make prey, where eagles dare not *perch.* *Shak.*

The morning muſes *perch* like birds. *Craſhaw.*—Let owls keep cloſe within the tree, and not *perch* upon the upper boughs. *South.*—

They wing'd their flight aloft, then ſtooping low,
Perch'd on the double tree. *Dryden.*

Glory like the trembling eagle ſtood
Perch'd on my beaver. *Lee.*

Hoſts of birds that wing the liquid air,
Perch'd in the boughs. *Dryden.*

(2.) * *To* PERCH. *v. a.* To place on a perch.—It would be notoriouſly perceptible, if you could *perch* yourſelf as a bird on the top of ſome high ſteeple. *More.*—

As evening dragon came,
Aſſailant on the *perched* rooſts. *Milton.*

* PERCHANCE. *adv.* [*per* and *chance.*] Perhaps; peradventure.—

How long within this wood intend you ſtay?
—*Perchance* till after Theſeus' wedding day. *Shak.*

—Not without aim then *perchance* at a courtier's life. *Wotton.*—Only Smithfield ballad *perchance* to embalm the memory of the other. *L'Eſtrange.*

PERCHE, a ci-devant territory of France, in the late prov. of Orleannois 35 miles long, and 30 broad; bounded on the N. by Normandy; S. by Maine and Dunois; E. by Beauce; and W. by Maine. It was named from a foreſt, and is pretty fertile. It now forms the department of ORNE, with a part of Normandy. The inhabitants carry on a pretty good trade; and the principal town is Belleſme.

* PERCHERS. *n. ſ.* Paris candles uſed in England in ancient times; alſo the larger ſort of wax candles, which were uſually ſet upon the altar. *Bailey.*

(1.) * PERCIPIENT. *adj.* [*percipiens*, Lat.] Perceiving; having the power of perception.—Every article of religion hath credibility enough for the aſſent; yet theſe cautious and quick-ſighted gentlemen wink and ſwallow this ſottiſh opinion about *percipient* atoms. *Bentley.*—Senſation and perception are not inherent in matter as ſuch; for if it were ſo, every ſtock or ſtone would be a *percipient* and rational creature. *Bentley.*

(2.) * PERCIPIENT. *n. ſ.* One that has the power of perceiving.—The ſoul is the ſole *percipient*, which hath animadverſion and ſenſe properly ſo called. *Glanville's Sceptſis.*—Nothing is extended *percipient* perceives the whole, but not part. *More's Divine Dialogues.*

* PERCLOSE. *n. ſ.* [*per* and *cloſe.*] Conclusion; laſt part. Obſolete.—By the *perclo'e* of ſame verſe, vagabond is underſtood for ſuch one as travelleth in fear of revengement. *Ralegh.*

* *To* PERCOLATE. *v. a.* [*percolo*, Lat.] To ſtrain through.—The evidences of fact are *percolated* through a vaſt period of ages. *Hale.*

(1.) * PERCOLATION, *n. ſ.* [from *percolate.*] The act of ſtraining; purification or ſeparation by ſtraining.—Experiments touching the ſtraining or paſſing of bodies one through another, the *percolation.* *Bacon.*—Water paſſing through veins of the earth is rendered freſh and potable, which it cannot be by any *percolations* we can make, but the ſaline particles will paſs through a tenfold filtre. *Ray on the Creation.*

(2.) PERCOLATION is the ſame with FILTRATION. See FILTER, § 2, and FILTRATION.

* *To* PERCUSS. *v. a.* [*percuſſus*, Lat.] To ſtrike.—Flame *percuſſed* by air giveth a noiſe; as blowing of the fire by bellows; and ſo like flame *percuſſing* the air ſtrongly. *Bacon.*

(1.) * PERCUSSION. *n. ſ.* [*percuſſio*, Lat. *percuſſion*, Fr.] 1. The act of ſtriking; ſtroke.—The thunder-like *percuſſion* of thy ſounds.—The *percuſſion* of the greater quantity of air produced by the greateſs of the body percuſſed. *Bacon.*—The times when the ſtroke or *percuſſion* of an envious eye doth moſt hurt are, when the party envied is beheld in glory. *Bacon's Eſſ.*—The vibrations or tremors excited in the medium by *percuſſion*, continue a little time to move from the place of *percuſſion* in concentric ſpheres to greater diſtances. *Newton's Opticks.*—Marables taught by *percuſſion* and the laws of motion. *Ariſtotle.*—Effect of ſound in the ear.—

In double rhymes the *percuſſion* is ſtrong.

(2.) PERCUSSION, in mechanics, the impulſe a body makes in falling or ſtriking upon another, or the ſhock of two bodies in motion.

* PERCUTIENT. *n. ſ.* [*percutiens*, Lat.] Striking; having the power to ſtrike.—In

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of sounds is accidental, either from the roughness or obliquity of the passage, or from the doubling of the *percutient*. *Bacon*.

PERCY, or PERSY, a town of France, in the dep. of the Channel; 12 miles W. of St Loo, and 15 N. of Avranches.

(1.) PERDIAL, *adj.* [from *per*, Lat. by, and *die*, day.] Daily, or by the day.

(2.) PERDIAL TYTHES. See PARSON, § 2.

PERDICCAS, I, II, and III, kings of Macedon. See MACEDON, § 3, 5, 6.

PERDICIUM, in botany, a genus of the polygamia superflua order, belonging to the syngenesia class of plants; and in the natural method ranking under the 49th order, *Compositæ*. The receptacle is naked; the pappus is simple; the florets bilabiate.

PERDIGO, a river of W. Florida, which runs into the Gulf of Mexico, and forms a large bay at its mouth; in Lon. 87. 26. W. Lat. 30. 20. N.

* PERDITION. *n. s.* [*perditio*, Lat. *perdition*. Fr. 1. Destruction; ruin; death.—Upon tidings now arrived, importing the meer *perdition* of the Turkish fleet, every man puts himself in triumph. *Bacon*.—We took ourselves for free men, seeing there was no danger of our utter *perdition*, and lived most joyfully; going abroad, and seeing what was to be seen. *Bacon*.—

Quick let us part! *Perdition*'s in thy presence,
And horror dwells about thee! *Addison's Cato*.

2. Loss.—

There's no soul lost,
Nay not so much *perdition* as an hair
Addid to any creature in the vessel. *Shak*.

3. Eternal death.—All men's salvation and some men's endless *perdition* are things so opposite, that whosoever doth affirm the one, must necessarily deny the other. *Hooker*.—Men, once fallen away from the subducted truth, daily travel towards their eternal *perdition*. *Raleigh's History*.

PERDITOLS. See PERENNIAL, § 2.

PERDIX, in ornithology, a genus of birds, belonging to the order of Gallinæ, ranked by Linnæus along with the genus TETRAO, or GROUS; but now very properly disjoined by Dr Latham, and called as a distinct genus; of which he describes the following characters: The bill is convex, strong, and short; the nostrils are covered above with a callous prominent rim; the orbits are papillose; the feet naked; and most of the genus are furnished with spurs. There are 48 species; of which the two principal are the Partridge and Quail.

1. PERDIX COMMUNIS, *the common partridge*, is so well known, that a description of it is unnecessary; and we have not room to describe the foreign species. We refer those who wish complete information to Dr Latham's valuable System of Ornithology. Partridges are found in every country and in every climate; as well in the frozen regions about the pole, as the torrid tracks under the equator. In Greenland, the partridge, which is brown in summer, as soon as the icy winter sets in, is clothed with a warm down beneath; and its outward plumage assumes the colour of the snow among which it seeks its food. Those of Barabonda, on the other hand, are longer legged, much swifter of foot, and choose the highest rocks and precipices to reside in. They all, however, agree in one character, of being immoderately addicted to venery; and, as some writers affirm, often to an unnatural degree. See PARTRIDGE, and SHOOTING.

2. PERDIX COTURNIX, or common QUAIL, is not above half the size of the partridge. The feathers of the head are black, edged with rusty brown; the breast is of a pale yellowish red, spotted with black; the feathers on the back are marked with lines of pale yellow, and the legs are of a pale hue. Except in the colours thus described, and the size, it every way resembles a partridge in shape, and, except that it is a bird of passage, it is like all others of the poultry kind in its habits and nature. The quail seems to be an inhabitant of every climate. It is observed to shift quarters according to the season, coming N. in spring, and departing in autumn, and in vast flocks. On the West coast of Naples, within 4 or 5 miles, 100,000 have been taken in a day. In England they are not numerous at any time. They feed like the partridge, and make no nest, except a few dry leaves or stalks scraped together, and sometimes an hollow on the bare ground suffices. In this the female lays 6 or 7 eggs, of a whitish colour, marked with irregular rust coloured spots: the young follow the mother as soon as hatched, like young partridges. They have but one brood in a year. Quail-fighting was a favourite amusement among the Athenians. They abstained from the flesh of this bird, deeming it unwholesome, as supposing that it fed upon the white hellebore: but they reared great numbers of them for the pleasure of seeing them fight; and staked sums of money, as we do with regard to cocks, upon the success of the combat. With us its flesh is considered as a very great delicacy.—Quails are easily caught by a call.

PERDOLI, a town of Imperial Istria; 4 miles NNW. of Pola.

(1.) * PERDUE. *adv.* [This word, which among us is adverbially taken, comes from the French *perdue*, or forlorn hope: as *perdue* or advanced centinel.] Close; in ambush.—

Few minutes he had lain *perdue*,
To guard his desp'rate avenue. *Hudibras*.

(2.) PERDUE BAY, a bay on the SW. coast of St Vincent; a mile NW. of Kingston Bay.

* PERDULOUS. *adj.* [from *perdo*, Latin.] Lost; thrown away.—There may be some wandering *perdulous* wishes of known impossibilities; as a man who hath committed an offence, may wish he had not committed it. *Bramhall*.

* PERDURABLE. *adj.* [*perdurable*, Fr. *perduro*, Lat.] Lasting; long continued. A word not in use, nor accented according to analogy.—Confess me knit to thy deserving with cables of *perdurable* toughness. *Shakesp. Othello*.—

O *perdurable* shame; let's stab ourselves. *Shak*.
The vig'rous sweat
Doth lend the lively springs their *perdurable* heat.
Drayton.

* PERDURABLY. *adv.* [from *perdurable*.] Lastingly.—

Why would he for the momentary trick,
Be *perdurably* fin'd *Shak. Meas. for Meas*.

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* PERDURATION. *n. ſ.* [*perduration*, Lat.] Long continuance. *Ainſworth.*

PEREASLAW, a ſtrong populous town of Poland, in the palatinate of Kiovia, ſituated on the river Trebecz. Lon. 32. 44. E. Lat. 49. 46. N.

* PEREGAL. *adj.* [Fr.] Equal. Obſolete.—
Whilom thou waſt *peregal* to the beſt. *Spenſer.*

* *To* PEREGRINATE. *v. n.* [*peregrinus*, Lat.] To travel; to live in foreign countries. *Dict.*

* PEREGRINATION. *n. ſ.* [from *peregrinus*, Lat.] Travel; abode in foreign countries.—it was agreed between them, what account he ſhould give of his *peregrination* abroad. *Bacon's Henry* VII.—It is not amiſs to obſerve the heads of doctrine, which the apoſtles agreed to publiſh in all their *peregrinations*. *Hammond.*—We reckon it only as the land of our *peregrination*, and aſpire after a better country. *Bentley.*

* PEREGRINE. *adj.* [*peregrin*, old Fr. *peregrinus*, Latin.] Foreign; not native; not domeſtick.—The received opinion, that putrefaction is cauſed by cold or *peregrine* and preternatural heat, is but negation. *Bacon's Nat. Hiſt.*

* *To* PEREMPT. *v. a.* [*peremptus*, Lat.] To kill; to cruſh. A law term.—Nor is it any objection, that the cauſe of appeal is *perempted* by the deſertion of an appeal; becauſe the office of the judge continues after ſuch inſtance is *perempted*. *Ayliffe.*

* PEREMPTION. *n. ſ.* [*peremptio*, Lat. *peremption*, Fr.] Cruſh; extinction. Law term.—This *peremption* of inſtance was introduced in favour of the publick. *Ayliffe.*

* PEREMPTORILY. *adv.* [from *peremptory*.] Abſolutely; poſitively; ſo as to cut off all farther debate.—Norfolk denies them *peremptorily*. *Daniel.*—Not to ſpeak *peremptorily* or concluſively, touching the point of poſſibility, till they have heard me deduce the means of the execution. *Bacon's Holy War.*—Some organs are ſo *peremptorily* neceſſary, that the extinguiſhment of the ſpirits doth ſpeedily follow. *Bacon's Nat. Hiſt.*—In all conferences it was inſiſted *peremptorily*, that the king muſt yield to what power was required. *Clarendon.*—God's laws *peremptorily* injoin us, to partake of the holy ſacrament. *Kettlewell.*—Some talk of letters before the deluge; but that is a matter of mere conjecture, and nothing can be *peremptorily* determined either the one way or the other. *Woodward.*—Never judge *peremptorily* on firſt appearances. *Clariſſa.*

* PEREMPTORINESS. *n. ſ.* [from *peremptory*.] Poſitiveneſs; abſolute deciſion; dogmatiſm.—*Peremptorineſs* is of two ſorts; the one a magiſterialneſs in matters of opinion; the other a poſitiveneſs in relating matters of fact. *Government of the Tongue.*—Self-conceit and *peremptorineſs* in a man's own opinion are not commonly reputed vices. *Tillotſon.*

* PEREMPTORY. *adj.* [*peremptorius*, low Latin; *peremptoire*, Fr. from *peremptus*, killed.] Dogmatical; abſolute; ſuch as deſtroys all further expoſtulation.—
If I entertain
As *peremptorie* a deſire, to levell with the plaine
A citie, where they loved to live; ſtand not betwixt my ire
And what it aimes at. *Chapman.*
—As touching the apoſtle, wherein he was ſo re
ſolute and *peremptory*, our Lord Jeſus Chriſt made
manifeſt unto him, even by intuitive revelation,
wherein there was no poſſibility of errour. *Hooker.*
—He may have fifty-ſix exceptions *peremptorily* a
gainſt the jurors, of which he ſhall ſhew no cauſe
Spenſer.—
Excuſe it not for I am *peremptory*. *Shakeſ.*
Not death himſelf
In mortal fury is half ſo *peremptory*,
As we to keep this city. *Shak. K. Joh.*
—Though the text and the doctrine run *peremp*
ry and abſolute, whoſoever denies Chriſt ſhall
ſuredly be denied by him; yet ſtill there is a t
condition, unleſs repentance intervene. *Sout*
Learning was to give us a fuller diſcovery of
ignorance, and to keep us from being *peremp*
and dogmatical. *Collier.*—He would never ta
ſuch a *peremptory* and diſcouraging manner,
he not aſſured, that he was able to ſubdue the
powerful oppoſition againſt the doctrine whic
taught. *Addiſon on the Chriſtian Religion.*

(1.) * PERENNIAL. *adj.* [*perennis*, Latin.] Laſting through the year.—If the quantity
preciſely the ſame in theſe *perennial* fountain
difficulty would be greater. *Cheyne.* 2. Per
al; unceaſing.—The matter wherewith the
rennial clouds are raiſed, is the ſea that furn
them. *Harvey.*

(2.) PERENNIALS, or PERENNIAL FLOW
in botany, a term applied to thoſe plants w
roots will abide many years, whether they
their leaves in winter or not. Thoſe which
their leaves are called *evergreens*; but ſu
caſt their leaves are named *deciduous*, or
DITOLS.

* PERENNITY. *n. ſ.* [from *perennitas*,
Equality of laſting through all ſeaſons; per
ty.—That ſprings have their origin from th
and not from rains and vapours, I conclude
the *perennity* of divers ſprings. *Derham.*

PEREUIL, a town of France, in the d
ment of Charente; 12 miles from Angoule

PEREVOZ, a town of Ruſſia, in Nizne
vogorod; 48 miles SSE. of Niznei Novogo

(1.) * PERFECT. *adj.* [*perfectus*, Lat. *p*
Fr.] 1. Complete; conſummate; finiſhed
ther defective nor redundant.—We count
things *perfect*, which want nothing requiſ
the end, whereto they were inſtituted. *Ho*
Anon they move
In *perfect* phalanx.
Uriel, no wonder if thy *perfect* ſight
See far and wide.
Whoever thinks a *perfect* work to ſee,
Thinks what ne'er was, nor, is, nor e'er
be.
As full as *perfect* in a hair, as heart.
2. Fully informed: fully ſkilful.—
Our men more *perfect* in the uſe of arms
Sh
In your ſtate honour I am *perfect*.
—I do not take myſelf to be ſo *perfect* in the p
leges of Bohemia, as to handle that part. *B*
3. Pure; blameleſs; clear; immaculate. T
a ſenſe chiefly theological.—
My parts, my title, and my *perfect* ſoul
Shall manifeſt me rightly.
—T

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—Thou shalt be *perfect* with the Lord thy God. *Deut.* xviii. 4. Confident; certain.—

Thou art *perfect* then, our ship hath touch'd upon
The deserts of Bohemia. *Shak.*

(2.) PERFECT implies something that has all the requisites of its nature and kind.

(3.) PERFECT CADENCE, in music. See CADENCE.

(4.) PERFECT TENSE, in grammar. See PRETERITE.

* *To* PERFECT. *v. a.* [*perfectus*, from *perficio*, Latin; *parfaire*, French.] 1. To finish; complete; to consummate; to bring to its due state.—If we love one another, God dwelleth in us, and his love is *perfected* in us. 1 *John*, iv. 12.—

Beauty now must *perfect* my renown:
With that I govern'd him that rules this isle.
Waller.

—In substances, rest not in the ordinary complex idea commonly received, but enquire into the nature and properties of the things themselves, and thereby *perfect* our ideas of their distinct species. *Locke.*—Endeavour not to settle too many habits at once, lest by variety you confound them, and *perfect* none. *Locke.*—

What toil did honest Curio take
To get one medal wanting yet,
And *perfect* all his Roman set? *Prior.*

2. To make skilful; to instruct fully.—

Her cause and yours,
I'll *perfect* him withal. *Shak.*

* PERFECTER. *n. s.* [from *perfect*.] One that makes perfect.—This practice was altered; they offered not to Mercury, but to Jupiter the *perfecter* thereof.

(1.) * PERFECTION. *n. s.* [*perfectio*, Lat. *perfection*, Fr.] 1. The state of being perfect.—Man hath not a triple *perfection*; first a sensual; then an intellectual; lastly, a spiritual and divine. *Hooker.*

It is a judgment maim'd and most imperfect,
That will confess *perfection* so could err
Against all rules of nature. *Shak.*

—True virtue, being united to the heavenly grace of faith, makes up the highest *perfection*. *Milton.*—The human understanding being absolutely secured from mistake by the *perfection* of its own nature, it follows that no man can be infallible. *Locke.*—

Many things impossible to thought,
Have been by need to full *perfection* brought.
Dryden.

—Too few, or of an improper figure and dimension to do their duty in *perfection*. *Blackmore.*—The question is not, whether gospel *perfection* can be fully attained; but whether you come as near it as a sincere intention, and careful diligence can carry you. *Law.* 2. Something that concurs to produce supreme excellence. In this sense it has a plural.—

What tongue can her *perfections* tell,
On whose each part all pens may dwell? *Sidney.*

—An heroick poem requires, as its last *perfection*, the accomplishment of some extraordinary undertaking, which requires more of the active virtue than the suffering. *Dryden.* 3. Attribute of God.—If God be infinitely holy, just and good, he must take delight in those creatures that resemble him most in these *perfections*. *Atterbury.* 4. Exact resemblance.

(II.) PERFECTION is divided, according to Chauvinus, into physical, moral, and metaphysical.

1. PERFECTION, METAPHYSICAL, TRANSCENDENTAL, or ESSENTIAL, is the possession of all the essential attributes, or of all the parts necessary to the integrity of a substance; or it is that whereby a thing has or is provided of every thing belonging to its nature. This is either absolute, where all imperfection is excluded, such as the perfection of God; or *secundum quid*, and in its kind.

2. PERFECTION, MORAL, is an eminent degree of virtue or moral goodness, to which men arrive by repeated acts of piety, beneficence, &c. This is usually subdivided into absolute or inherent, which is actually in him to whom we attribute it; and imputative, which exists in some other, and not in him it is attributed to.

3. PERFECTION, PHYSICAL, or NATURAL, is that whereby a thing has all its powers and faculties, and those too in full vigour; and all its parts both principal and secondary, and those in their due proportion, constitution, &c. in which sense man is said to be perfect, when he has a sound mind in a sound body. This perfection is by the schools frequently termed ευεξια, because a thing is enabled thereby to perform all its operations.

* *To* PERFECTIONATE. *v. a.* [*perfectionner*, Fr. from *perfection*.] To make perfect; to advance to perfection. This is a word proposed by *Dryden*, but not received, nor worthy of reception.—Painters and sculptors, chusing the most elegant natural beauties, *perfectionate* the idea, and advance their art above nature itself. *Dryden.*—He has founded an academy for the progress and *perfectionating* of painting. *Dryden.*

* PERFECTIVE. *adj.* [from *perfect*.] Conducing to bring to perfection: with *of*.—Praise and adoration are actions *perfective* of our souls. *More.*—Eternal life shall not consist in endless love; the other faculties shall be employed in actions suitable to, and *perfective of* their natures. *Ray.*

* PERFECTIVELY. *adv.* [from *perfective*.] In such a manner as brings to perfection.—As virtue is seated fundamentally in the intellect, so *perfectively* in the fancy. *Grew.*

* PERFECTLY. *adv.* [from *perfect*.] 1. In the highest degree of excellence. 2. Totally; completely.—Chewing little sponges dipt in oil, when *perfectly* under water, he could longer support the want of respiration. *Boyle.*—Words recall to our thoughts those ideas only which they have been wont to be signs of, but cannot introduce any *perfectly* new and unknown simple ideas. *Locke.* 3. Exactly; accurately.—We know bodies and their properties most *perfectly*. *Locke.*

* PERFECTNESS. *n. s.* [from *perfect*.] 1. Completeness; consummate excellence; perfection. 2. Goodness; virtue. A scriptural word.—Put on charity, which is the bond of *perfectness*. *Col.* iii. 14. 3. Skill.—

Is this your *perfectness*? *Shak.*

* PERFIDIOUS. *adj.* [*perfidus*, Lat. *perfide*, Fr.] 1. Treacherous; false to trust; guilty of violated faith.—

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Tell me, *perfidious*, was it fit
To make my cream a perquiſite? *Widow.*

2. Expreſſing treachery; proceeding from treachery.—

I ſee thy fall
Determin'd, and thy hapleſs crew involv'd
In this *perfidious* fraud. *Milton.*

* PERFIDIOUSLY. *adv.* [from *perfidious*.] Treacherouſly; by breach of faith.—

Perfidiouſly
He has betray'd your buſineſs. *Shak.*
They eat *perfidiouſly* their words. *Hudibras.*

—Can he not deliver us poſſeſſion of ſuch places as would put him in a worſe condition, whenever he ſhould *perfidiouſly* renew the war? *Swift.*

* PERFIDIOUSNESS. *n. ſ.* [from *perfidious*.] The quality of being perfidious.—Some things have a natural deformity in them; as perjury, *perfidiouſneſs*, and ingratitude. *Tillotſon.*

* PERFIDY. *n. ſ.* [*perfidia*, Lat. *perfidie*, Fr.] Treachery; want of faith; breach of faith.

* PERFLABLE. *adj.* [from *perflo*, Lat.] Having the wind driven through.

* *To* PERFLATE. *v. a.* [*perflo*, Lat.] To blow through.—It Eaſtern winds did *perflate* our climates more frequently, they would clarify and refreſh our air. *Harvey.*—The firſt conſideration in building of cities, is to make them open, airy, and well *perflated*. *Arbuthnot.*

* PERFLATION. *n. ſ.* [from *perflate*.] The act of blowing through.—Miners, by *perflations* with large bellows, give motion to the air, which ventilates and cools the mines. *Woodward.*

PERFORANS MANUS. See ANATOMY, § 213, 18.

* *To* PERFORATE. *v. a.* [*perforo*, Lat.] To pierce with a tool; to bore.—Draw the bough of a low fruit tree newly budded without twiſting, into an earthen pot *perforate* at the bottom, and then cover the pot with earth, it will yield a very large fruit. *Bacon's Nat. Hiſt.*—A *perforated* bladder does not ſwell. *Boyle.*—

The labour'd chyle pervades the pores,
In all the arterial *perforated* ſhores. *Blackmore.*

—The aperture was limited by an opaque circle placed between the eye-glaſs and the eye, and *perforated* in the middle with a little round hole for the rays to paſs through to the eye. *Newton's Opticks.*—Worms *perforate* the guts. *Arbuthnot on Diet.*

* PERFORATION. *n. ſ.* [from *perforate*.] 1. The act of piercing or boring.—The likelieſt way is the *perforation* of the body of the tree in ſeveral places one above another, and the filing of the holes. *Bacon.*—The induſtrious *perforation* of the tendons of the ſecond joints of fingers and toes, and the drawing the tendons of the third joints through them. *More.* 2. Hole; place bored.—That the nipples ſhould be made ſpongy, and with ſuch *perforations* as to admit paſſage to the milk, are arguments of providence. *Ray on the Creation.*

* PERFORATOR. *n. ſ.* [from *perforate*.] The inſtrument of boring.—

convenient chair, dip
ſuddenly thro
ing the *perfo*
the canu

PERFORATUS MANUS. See ANATOMY, § 213, 12.

* PERFORCE. *adv.* [*per* and *force*.] By violence; violently.—

Guyon to him leaping, ſtaid
His hand, that trembled as one terrify'd;
And though himſelf were at the ſight diſmay'd
Yet him *perforce* reſtrain'd. *Spenſer.*

Jealous Oberon would have the child,
But ſhe *perforce* withholds the loved boy. *Shak.*

Pale with death at hand, *perforce* ſhe bre
Into the inmoſt rooms. *Peachum on Poe*

(1.) * *To* PERFORM. *v. a.* [*performare*, Italia
To execute; to do; to diſcharge; to atchi
an undertaking; to accompliſh.—All three
among the foremoſt ranks of fame, for great m
to attempt, and great force to *perform* what t
did attempt. *Sidney.*—

Haſt thou, ſpirit,
Perform'd to point the tempeſt that I bad th

What cannot you and I *perform* upon
Th' unguarded Duncan? *Shak. Mac*

—God that *performeth* all things for me. *P*
lvii. 2.—Let all things be *performed* after the
of God. 1 *Eſdras*, viii. 21.—

Perform his fun'rals with paternal care

You *perform* her office in the ſphere,
Born of her blood.

—He effectually *performed* his part; with grea
tegrity, learning and acuteneſs. *Waterland.*

(2.) * *To* PERFORM. *v. n.* To ſucceed in a
tempt.—When a poet has *performed* admirab
ſeveral illuſtrious places, we ſometimes ad
his very errours. *Watts.*

* PERFORMABLE. *adj.* [from *perform*.] P
cable; ſuch as may be done.—Men forget th
lations of hiſtory, affirming that elephants ha
joints, whereas their actions are not *perfor*
without them. *Brown's Vulg. Err.*

* PERFORMANCE. *n. ſ.* [from *perform*
Completion of ſomething deſigned; executi
ſomething promiſed.—

His promiſes were, as he then was, mig
But his *performance*, as he now is, noth

—Promiſing is the very air o' th' time; it
the eyes of expectation; *performance* is ey
duller for his act. *Shak. Timon of Athens.*
form the doing of it; that as there was a
neſs to will, ſo there may be a *performance*.
viii. 11.—The only means to make him ſucc
in the *performance* of theſe great works,
be above contempt. *South.*—They muſt all
the ſame ends, as dutiful ſervants of God,
right and pious *performance* of their ſeveral
Law. 2. Compoſition; work.—In your *pe*
ances 'tis ſcarcely poſſible for me to be de
Dryden.—Few of our comic *performa*
good examples. *Clariſ.* 3.
done.—In this ſlumbery agi
king

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Shak. 2. It is generally applied to one that makes a public exhibition of his skill.

* *To* PERFRICATE. *v. n.* [*perfrico*, Lat.] To rub over. *Dict.*

* PERFUMATORY. *adj.* [from *perfume.*] That which perfumes.

(1) * PERFUME. *n. f.* [*parfume*, Fr.] 1. Strong odour of sweetness used to give scents to other things.—Pomanders and knots of powder for strong rheums are not so strong as *perfumes*; you may have them continually in your hand, whereas *perfumes* you can take but at times. *Bacon.*—*Perfumes*, though gross bodies that may be sensibly wasted, yet fill the air, so that we can put our nose in no part of the room where a *perfume* is burned, but we smell it. *Digby.* 2. Sweet odour; fragrance.—

Trodden with weeds send out a rich *perfume*.
Addison.

No rich *perfumes* refresh the fruitful field.
Pope.

Every bramble sheds *perfume*. *Gay.*

(2) PERFUME, denotes either the volatile effluvia from any body affecting the organ of smelling, or the substance emitting those effluvia; in which last sense the word is most commonly used. The generality of perfumes are made up of musk, ambergris, civet, rose and cedar woods, orange flowers, jessamines, jonquils, tuberoses, and other odoriferous flowers. Those drugs commonly called aromatics, such as storax, frankincense, benjamin, cloves, mace, &c. enter the composition of a perfume; some are also composed of aromatic herbs or leaves, as lavender, marjoram, sage, thyme, hyssop, &c. The use of perfumes was frequent among the Hebrews, and among the orientals in general, before it was known to the Greeks and Romans. They came to be very common among the Greeks and Romans, especially those composed of musk, ambergris, and civet. The *nardus* and *malobathrum* were held in much estimation, and were imported from Syria. The unguentum *nardinum* was variously prepared, and contained many ingredients. *Malobathrum* was an Indian plant. Perfumes were also used at sacrifices to regale the gods; at feasts, to increase the pleasures of sensation; at funerals, to overcome cadaverous smells, and please the manes of the dead: and in the theatres, to prevent the offensive effluvia, proceeding from a crowd, from being perceived.

* *To* PERFUME. *v. a.* [from the noun.] To scent; to impregnate with sweet scent.—

Let me have them very well *perfum'd*,
For she is sweeter than perfume itself
To whom they go. *Shak. Taming of the Shrew.*

Why, rather, sleep, liest thou in smoky cribs,
Short'd huisht with buzzing night-flies to thy slumber,
Than in the *perfum'd* chambers of the great?
Shak.

Then will I raise aloft the milk-white rose,
With whose sweet smell the air shall be *perfum'd*.
Shak.

The distilled water of wild poppy, mingled at half with rose water, take with some mixture of a few cloves in a *perfuming* pan. *Bacon's Nat. Hist.*

Smells adhere to hard bodies; as in *perfuming* of gloves, which sheweth them corporeal. *Bacon's Nat. Hist.*—

'Tis like *perfuming* an ill scent,
The smell's too strong for art. *Granville.*

Carmel's flow'ry top *perfumes* the skies! *Pope.*

* PERFUMER. *n. f.* [from *perfume.*] One whose trade is to sell things made to gratify the scent.—A moss the *perfumers* have out of apple trees, that hath an excellent scent. *Bacon's Nat. Hist.*—

First issued from *perfumers* shops
A crowd of fashionable fops. *Swift.*

* PERFUNCTORILY. *adv.* [*perfunctorie*, Lat.] Carelessly; negligently; in such a manner as to satisfy external form.—His majesty cast his eye *perfunctorily* upon it. *Clarendon.*—Lay seriously to heart the clearness and evidence of these proofs, and not *perfunctorily* pass over all the passages of the gospel. *Lucas.*—The two first of these have been handled by Aristotle very *perfunctorily*; of the fourth he has said nothing at all. *Baker on Learning.*

* PERFUNCTORY. *adj.* [*perfunctorius*, Lat.] Slight; careless; negligent.—A transient and *perfunctory* examination of things leads men into considerable mistakes. *Woodward.*

* *To* PERFUSE. *v. a.* [*perfusus*, Lat.] To tincture; to overspread.—These dregs immediately *perfuse* the blood with melancholy, and cause obstructions. *Harvey on Consump.*

PERG, two towns of Austria: 1. six miles S. of Aigen: 2. twelve miles E. of Steyregg.

PERGA, a town of European Turkey in Albania, opposite Corfu. Lon. 20. 19. E. Lat. 39. 40. N.

PERGAMA, the citadel of Troy; which, because of its extraordinary height, gave name to all high buildings (*Servius. Virg.*) Others say the walls of Troy were called *Pergama.*

PERGAMAR, a town of Turkey, in Romania; 60 miles SW. of Adrianople, and 65 NW. of Gallipoli.

PERGAMEA, } names given by Virgil and
PERGAMIA } Plutarch to PERGAMUM.

PERGAMO, or } the modern name of PER-
PERGAMOS, } GAMUM, and PERGAMUS.

(1.) PERGAMUM, PERGAMEA, or PERGAMIA, a town of Crete, built by Agamemnon in memory of his victory. (*Plut. Virg. Velleius.*) Here was the burying-place of Lycurgus, (*Aristoxenus.*) It was situated near Cydonia (Servius); but Scylax helps him out, who places the Dictynnean temple of Diana, which stood near Cydonia (Strabo), to the north of the territory of Pergamia.

(2.) PERGAMUM, a town of Mysia, situated on the Caicus, which runs by it. (*Plin. Strabo.*) It was the royal residence of Eumenes, and of the kings of the race of the Attali. (*Liv.*) It had an ancient temple of Æsculapius. (*Tacitus.*) The ornament of Pergamum was the royal library, vying with that of Alexandria in Egypt; the kings of Pergamum and Egypt rivalling each other in this respect. (*Pliny.*) Strabo ascribes this rivalry to Eumenes. Plutarch mentions 200,000 volumes in the library at Pergamum. Here the *membranæ pergamenæ*, whence the name PARCHMENT, were invented for the use of books. (*Varro, Pliny*) It was the country of Galen, and of Oribasius, physician

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Eclan to Julian. (*Eutapius.*) Here P. Scipio died. (*Cicero.*) Attalus ſon of Eumenes dying without iſſue, bequeathed his kingdom to the Roman people, who reduced it to a province. (*Strabo*). Here was one of the nine *conventus juridici*, or aſſemblies of the *Aſia Romana*, called *pergamenus*, and the 9th in order, which Pliny alſo calls *juriſdictio Pergamena*.

PERGAMUS, an ancient kingdom of Aſia, formed out of the ruins of the empire of Alexander the Great. It commenced about the year 283. The firſt ſovereign was one Philetærus an eunuch, by birth a Paphlagonian, of a mean deſcent, and in his youth a menial ſervant to Antigonus, one of Alexander's captains. Philetærus left the city of Pergamus to his brother, or, according to ſome, to his brother's ſon Eumenes I. who obtained poſſeſſion of the greater part of the province of Aſia. Eumenes was ſucceeded by Attalus I. nephew of Philetærus, who during a reign of 43 years was engaged in many ſucceſful wars with the Gauls, Philip of Macedon, and others. He was a man of great generoſity, and ſuch an enthuſiaſt in favour of genius, that he cauſed a grammarian named *Daphidas* to be thrown into the ſea from the top of a high rock, becauſe he ſpoke diſreſpectfully of Homer. Attalus was ſucceeded by his eldeſt ſon Eumenes II. He was exceedingly attached to the Romans, and aſſiſted them in conquering Antiochus the Great, for which they rewarded him, by adding to his dominions all the countries on this ſide of Mount Taurus, which belonged to that monarch. He continued long a faithful ally of that powerful people, but having entered into a ſecret treaty with Perſeus K. of Macedon, he excited their reſentment, and although he fought to deprecate their vengeance, it would have fallen on him but for his death, which happened in the 39th year of his reign. He left one ſon, but as he was an infant, he nominated his brother, to ſucceed him. Attalus, II. in the beginning of his reign, was routed in a pitched battle by Pruſias king of Bithynia, but the intervention of the Romans procured him complete redreſs. The latter part of his life he devoted to eaſe and luxury. He died in his 82d year about 138 B. C. He was ſucceeded by Attalus III. the ſon of Eumenes; whoſe reign was one continued horrid ſcene of madne's and tyranny. On his death a will was found, by which he left the Roman people heirs of all his goods; upon which they ſeized on the kingdom, and reduced it to a province of their empire by the name of *Aſia Proper*. Ariſtonicus, a ſon of Eumenes by an Epheſian courteſan, endeavoured to wreſt it from them, but although he gained ſeveral battles he could not attain his object, but died in priſon. The country remained ſubject to the Romans while their empire laſted, but is now in the hands of the Turks. The city is half ruined, and is ſtill known by the name of *Pergamo*. It is inhabited by about 3000 Turks, and a few families of poor Chriſtians. Lon. 27. 27. E. Lat. 30. 3. N.

PERGUNNAH, in the language of Hidooſtan, means the largeſt ſubdiviſion of a province, whereof the revenues are brought to one particular *head Cutchery*, from whence the accounts and caſh are tranſmitted to the general *Cutchery* of the province.

* PERHAPS. *adv.* [*per* and *hap.*] Peradventur it may be.—

Perhaps the good old man that kiſs'd his ſo
Hopes yet to ſee him ere his glaſs be run.
Flatma

—Somewhat may be inveuted, *perhaps* more cellent than the firſt deſign, though Virgil muſt ſtill excepted, when that *perhaps* takes place. *Dr*

Perhaps new graces darted from her eyes,
Perhaps ſoft pity charm'd his yielding ſoul,
Perhaps her love, *perhaps* her kingdom cham
him. *Sm*

—God may *perhaps* pardon. *Law.*

PERI. See MYTHOLOGY, § 21.

PERIAGOGUE, in rhetoric, is uſed wh many things are accumulated into one pe which might have been divided into ſeveral.

PERIAGUA, a ſort of large canoe made u in the Leeward iſlands, S. America, and the of Mexico. It is compoſed of the trunks of trees hollowed and united together; and thus fers from the canoe, which is formed of one

PERIANDER, tyrant of Corinth and Cor was reckoned among the ſeven wiſe men of Gre though he might rather have been reckoned am the moſt wicked men, ſince he changed the vernment of his country, deprived his cou men of their liberty, uſurped the ſovereignty, committed the moſt ſhocking crimes. He mitted inceſt with his mother, and kicked to his wife Meliſſa. Yet he paſſed for one o greateſt politicians of his time; and Hera tells us, that he forbad voluptuouſneſs; th impoſed no taxes; cauſed all pimps to be d ed; and eſtabliſhed a ſenate. He died A. 585.

PERIANTHIUM, [from *περι*, *round*, and *the flower*,] the flower cup properly ſo call moſt common ſpecies of calyx, placed imm ly under the flower, which is contained in a cup. See BOTANY, *Index*.

* PERIAPT, *n. ſ.* [*περιαπτω.*] Amulet; worn as a preſervative againſt diſeaſes or mi *Hummer.*—

Now help, ye charming ſpells and *peri*

(1.) * PERICARDIUM. *n. ſ.* [*περι* and *pericarde*, Fr.] The *pericardium* is a thin brane of a conick figure that reſembles a and contains the heart in its cavity: its ba pierced in five places, for the paſſage of th ſels which enter and come out of the heart uſe of the *pericardium* is to contain a ſmall tity of clear water, which is ſeparated by glands in it, that the ſurface of the heart m grow dry by its continual motion. *Quincy.*

(2.) PERICARDIUM. See ANATOMY, *In*

(1.) * PERICARPIUM. *n. ſ.* [*pericarpe*, botany, a pellicle or thin membrane, enc fing the fruit or grain of a plant, or that pa fruit that envelopes the ſeed.—Beſides thi the pulp or *pericarpium* for the guard of the it ſerves alſo for the ſuſtenance of animals.

(2.) PERICARPIUM. See BOTANY, *Index*.

PERICHORUS, in antiquity, a name giv the Greeks to thoſe games or combats, that not conſecrated to any of the gods.

PERICLES was one of the greateſt men

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ever flourished in Greece. He was very brave; and so eloquent, that he gained almost as great an authority under the republican government of Athens, as if he had been a monarch. His fondness for women was one of his chief vices. He married the celebrated ASPASIA, and died the 3d year of the Peloponnesian war. See ATTICA, § 12, 13.

* PERICLITATION. *n. s.* [from *periclitor*, Lat. *peridter*, Fr.] 1. The state of being in danger. 2. Trial; experiment.

(1) * PERICRANIUM. *n. s.* [from περι and *cranium*; *pericrane*, Fr.] The *pericranium* is the membrane that covers the skull: it is a very thin and nervous membrane of an exquisite sense, such as covers immediately not only the cranium, but all the bones of the body, except the teeth; for which reason it is also called the periosteum. *Quincy.*—Some divided the *pericranium*, I saw a fissure running the whole length of the wound. *Wiseman.*

(2) PERICRANIUM. See ANATOMY, *Index.*

* PERICULOUS. *adj.* [*periculosus*, Lat.] Dangerous; jeopardous; hazardous. A word not in use.—As the moon every seventh day arriveth unto a contrary sign, so Saturn, which remaineth about seven years in one sign, and holdeth the consideration in years as the moon in days, do make these *periculous* periods. *Brown.*

* PERIERGY. *n. s.* [περι and εργον.] Needless curiosity in an operation; unnecessary diligence.

PERIGEE. } *n. s.* [περι and γη; *perigée*, Fr.]
PERIGEUM. } Is a point in the heavens, wherein a planet is said to be in its nearest distance from the earth. *Harris.*—By the proportion of its motion, it was at the creation, at the beginning of Aries, and the *perigeum* or nearest in Libra. *Brown's Vulgar Errours.*

PERIGEUX, or PERIGUEUX, an ancient town of France, capital of the department of Dordogne, formerly was of the ci-devant province of Perigord, seated on the Ille; remarkable for the ruins of the temple of Venus, and an amphitheatre; famous for partridge pies. It contains about 6000 citizens; and is 60 miles SW. of Limoges. Long. 48. E. Lat. 45. 11. N.

PERIGORD, a province of France, which was part of Guienne. It was bounded N. by Limousin and Marche, E. by Querci and Limousin, S. by Agenois and Bazodois; and W. by Xaintonge, Angoumois and Saintonge. It was about 85 miles long, and 60 broad. It abounds in mines, and the air is pure and healthy. PERIGUEUX was the capital.

PERIGORD STONE, an ore of manganese, of a dark grey colour, like the basaltes or trapp. It may be scraped with a knife, but is extremely difficult to be broken. It is found of no regular figure, is very compact, heavy, and as black as coal. Its appearance is glittering and striated, like the ore of antimony; its particles being disposed in the form of needles, crossing one another without any agglutination, insomuch that some have taken as iron-filings when stuck to a loadstone; resembling the scoria from a black-smith's furnace. By calcination it becomes harder and of a reddish brown colour, but is not magnetic. It has a considerable specific gravity, does not melt *per se*, but with borax runs into an amethyst-coloured glass. It is scarcely affected by nitrous acid without the addition of sugar. It seems also to contain some argil and iron. It is met with in the ci-devant provinces of Gascony and Dauphiny in France, and in some parts of England. It is employed by the French potters and enamellers in the glassy varnish of their earthen wares. See MINERALOGY, *Part* II, *Chap.* VII, *Order* XVI, *Gen.* I, *Sp.* 2.

(1.) PERIGRAPHE, a word used to express a careless or inaccurate delineation of any thing.

(2.) PERIGRAPHE, in anatomy, is used by Vesalius to express the white lines or impressions that appear on the musculus rectus of the abdomen.

PERIGUEUX. See PERIGEUX.

(1.) * PERIHELIUM. *n. s.* [περι and ηλιος; *perihelie*, Fr.] Is that point of a planet's orbit, wherein it is nearest the sun. *Harris.*—Sir Isaac Newton has made it probable, that the comet which appeared in 1680, by approaching to the sun in its *perihelium*, acquired such a degree of heat, as to be 50000 years a cooling. *Cheyne's Phil. Prin.*

(2.) PERIHELIUM. See ASTRONOMY, *Index.*

* PERIL. *n. s.* [*peril*, Fr; *perikel*, Dutch; *periculum*, Lat.] 1. Danger; hazard; jeopardy.—Doubt not to tell of your *perils*. *Sidney.*—

How many *perils* do infold
The righteous man to make him daily fall?
Spenser.

In the act what *perils* shall we find? *Daniel.*

The love and pious duty which you pay,
Have pass'd the *perils* of so hard a way. *Dryd.*

—Strong, healthy and young people are more in *peril* by pestilential fevers, than the weak and old. *Arbuthnot.* 2. Denunciation; danger denounced.

I told her,
On your displeasure's *peril*,
She should not visit you. *Shak.*

* PERILOUS. *adj.* [*perileux*, Fr. from *peril.*] 1. Dangerous; hazardous; full of danger.—Alterations in the service of God, are *perilous* in common-weals. *Hooker.*—

Infamous hills and sandy *perilous* wilds. *Milt.*

Perilous the assay, unheard the toil
T' elude the prescience of a God by guile. *Pope.*

2. It is used by way of emphasis, or ludicrous exaggeration of any thing bad.—

Thus was th' accomplish'd squire endu'd
With gifts and knowledge *per'lous* shrewd.
Hudibras.

3. Smart; witty. In this sense it is, I think, only applied to children, and probably obtained its signification from the notion, that children eminent for wit, do not live; a witty boy was therefore a *perilous* boy, or a boy in danger. It is vulgarly *parlous*.—

'Tis a *per'lous* boy,
Bold, quick, ingenious, forward, capable. *Shak.*

* PERILOUSLY. *adv.* [from *perilous.*] Dangerously.

* PERILOUSNESS. *n. s.* [from *perilous.*] Dangerousness.

PERIM, an island in the Red Sea, situated between the two points which include the Straits of Babelmandel. It is about 5 miles long and 2 broad. The channels on each side are dangerous and shallow. The harbour is good.

* PERIMETER. *n. s.* [περι and μετρεω; *perimetre*, Fr.] The compass or sum of all the sides which bound any figure of what kind soever, whether recti-

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rectilinear or mixed.—By compreſſing the glaſſes ſtill more, the diameter of this ring would increaſe, and the breadth of its orbit or *perimeter* decreaſe, until another new colour emerged in the centre of the laſt. *Newton's Opticks.*

PERIN, a province of Ruſſia.

PERINÆUM, or PERINEUM, in anatomy, the ſpace between the anus and the parts of generation, divided into two equal lateral diviſions by a very diſtinct line, which is longer in males than females.

PERINSKIOLD, John, a learned Swediſh writer, born at Stregneſia in Sudermania, in 1654. He was made profeſſor at Upſal, ſecretary antiquary of the king of Sweden, and counſellor of the chancery of antiquities. He died in 1720. His principal works are, 1. A Hiſtory of the Kings of Norway. 2. A Hiſtory of the Kings of the North. 3. An edition of John Meſſenius on the Kings of Sweden, Norway, and Denmark, in 14 vols fol. &c.

(1.) * PERIOD. *n. ſ.* [*periode*, Fr. περίοδος.] 1. A circuit. 2. Time in which any thing is performed, ſo as to begin again in the ſame manner. —Tell theſe, that the ſun is fixed in the centre, that the earth with all the planets roll round the ſun in their ſeveral *periods*. *Watts.* 3. A ſtated number of years; a round of time, at the end of which the things compriſed within the calculation ſhall return to the ſtate in which they were at the beginning.—A cycle or *period* is an account of years that has a beginning and end, and begins again as often as it ends. *Holder.*—We ſtile a leſſer ſpace a cycle, and a greater by the name of *period*. *Holder on Time.* 4. The end or concluſion.—

If my death might make this iſland happy,
And prove the *period* of their tyranny. *Shak.*

—Whatſoever concerns this ſublunary world in the whole extent of its duration, from the chaos to the laſt *period*, ſhall be brought to light. *Burnet.*

What anxious moments paſs between
The birth of plots and their laſt fatal *periods*.
Addiſon.

5. The ſtate at which any thing terminates.—

Beauty's empires, like to greater ſtates,
Have certain *periods* ſet, and hidden fates. *Suckl.*

—Light-conſerving ſtones muſt be ſet in the ſun before they retain light, and the light will appear greater or leſſer, until they come to their utmoſt *period*. *Digby.* 6. Length of duration.—Some experiment would be made how by art to make plants more laſting than their ordinary *period*. *Bacon.* 7. A complete ſentence from one full ſtop to another.—*Periods* are beautiful, when they are not too long. *Ben Jonſon.*—

Not a *period*
Shall be unſaid for me. *Milton.*

—A fallacy cunningly wrapt up in a ſmooth *period*. *Locke.*—The firſt words of every *period* in every page may be written in diſtinct colours. *Watts.* 8. A courſe of events, or ſeries of things memorably terminated; as, the *periods* of an empire.—

From the tongue
Th' unfiniſh'd *period* falls. *Thomſon.*

(2.) PERIOD, in aſtronomy, the time taken up by a ſtar or planet in making a revolution round the ſun; or the duration of its courſe till it return to the ſame part of its orbit. See PLANET. The different periods and mean diſtances of the ſeveral planets are as follow:

	Days	h.	′	″	Mean Dif
Saturn	10579	6	36	26	953800
Jupiter	4332	12	20	35	520110
Mars	686	23	27	30	152309
Earth	365	6	9	30	100000
Venus	224	16	49	24	72333
Mercury	87	23	15	53	36710

The ſquares of the periodical times of the prim planet, are to each other as the cubes of their tances from the ſun: and likewiſe, the ſquare the periodical times of the ſecondaries of any net are to each other as the cubes of their tances from that primary. This harmony am the planets is one of the greateſt confirmation the Copernican hypotheſis. See ASTRONOM 270, 559.

(3.) PERIOD, in chronology, denotes a re tion of a certain number of years, or a ſeri years, whereby, in different nations, and on rent occaſions, time is meaſured; ſuch are th lowing:

i. PERIOD, CALIPPIC, a ſyſtem of ſeven years. See ASTRONOMY, § 31; and CALIP

ii. PERIOD, DIONYSIAN, or VICTORIAN RIOD, a ſyſtem of 532 lunæ-ſolar and Julian y which being elapſed, the characters of the fall again upon the ſame day and feria, and re in the ſame order, according to the opinion o ancients. This period is otherwiſe called *great paſchal cycle*, becauſe the Chriſtian ch firſt uſed it to find the true time of the paſc eaſter. The ſum of theſe years ariſe by mult ing together the cycles of the ſun and moon

iii. PERIOD, HIPPARCHUS's, is a ſeries o ſolar years, returning in a conſtant round, a ſtoring the new and full moons to the ſam of the ſolar year, according to the ſentime Hipparchus. This period ariſes by multi the Calippic period by four. Hipparchus a the quantity of the ſolar year to be 365 da 55′ 12″; and hence concluded, that in 10 Calippus's period would err a whole da therefore multiplied the period by four, an the product caſt away an entire day. Bu this does not reſtore the new and full moo the ſame day throughout the whole period they are ſometimes anticipated 1 day 8 hou 29″ 20‴.

iv. PERIOD, JULIAN. See JULIAN, § 5.

(4.) PERIOD, in grammar, denotes a ſmall paſs of diſcourſe, containing a perfect ſen and diſtinguiſhed at the end by a point, c ſtop, thus (.); and in members or diviſions m by commas, colons (:), &c.. Rhetoricians der period, which treats of the ſtructure tences, as one of the 4 parts of compo The periods allowed in oratory are 3: A of two members, called by the Greeks *dico* by the Latins *bimembris*; a period of 3 me *tricolos, trimembris*; and a period of 4, *quad bris, tetracolos*. See PUNCTUATION.

(5.) PERIOD, in numbers, is a diſtinction by a point or comma, after every ſixth pla figure; and is uſed in numeration, for the diſtinguiſhing and naming the ſeveral figu places. See NUMERATION, under ARITH *Index*.

(6.) PERIOD, in medicine, is applied to

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diſeaſes which have intervals, and returns, to denote an entire courſe or circle of ſuch diſeaſe; or the progreſs from any ſtate through all the reſt till it return to the ſame again. Galen deſcribes period as a time compoſed of an intenſion and remiſſion; whence it is uſually divided into two parts, the paroxyſm or exacerbation, and remiſſion. In intermitting fevers, the periods are uſually ſtated and regular; in other diſeaſes, as the epilepſy, &c. they are vague or irregular.

* To PERIOD. *v. a.* [from the noun.] To put an end to. A bad word.—

Your letter he deſires
To thoſe have ſhut him up, which failing to him,
Periods his comfort. *Shak. Timon.*

PERIODICAL. } *adj.* [*periodique*, Fr. from
PERIODICK. } *period.*] 1. Circular; making a circuit; making a revolution.—Was the moon's *periodick* motion always in the ſame plane with that of the diurnal, we ſhould miſs of thoſe increaſes of day and night. *Derham.*—Four ſtars perpetually roll round the planet Jupiter, and are carried along with him in his *periodical* circle round the ſun. *Watts on the Mind.* 2. Happening by revolution at ſome ſtated time.—Remarkable and *periodical* conjunctions. *Bentley.* 3. Circular; performing ſome action at ſtated times. Cavities of mountains and hollows furniſhed with a probable reaſon for thoſe *periodical* founts in Switzerland, which flow only at ſuch particular hours of the day. *Addiſon.* 4. Relating to circuits or revolutions.—Plato meaſured the mutations of ſtates by a *periodical* fatality of number.

PERIODICALLY. *adv.* [from *periodical.*] At ſtated periods.—The three tides ought to be underſtood of the ſpace of the night and day, then there will be a regular flux and reflux thrice in that ſpace every eight hours *periodically*. *Broome.*

PERIOECI, περίοικοι, in geography, ſuch inhabitants of the earth as have the ſame latitudes, but oppoſite longitudes, or live under the ſame parallel and the ſame meridian, but in different circles of that meridian, or in oppoſite points of the parallel. Theſe have the ſame common ſhadow throughout the year, and the ſame phenomena of the heavenly bodies; but when it is noon with the one, it is midnight with the other, the being twelve hours in an eaſt and weſt diſtance. Theſe are found on the globe by the meridian, or by turning the globe half round, or 180 degrees either way.

* PERIOSTEUM. *n. ſ.* [περὶ and ὀστέον; *perioſteum*.] All the bones are covered with a very fine membrane, called the *perioſteum*. *Cheyne's Philoſophical Principles.*

PERIOSTEUM. See ANATOMY, *Index.*

PERIPATETICS, philoſophers, followers of Ariſtotle, and maintainers of the peripatetic philoſophy; called alſo *Ariſtoteliens*. They were called *Peripatetics*, from περιπατέω, I walk; becauſe they diſputed walking in the Lyceum. (See ARISTOTLE § 3; METAPHYSICS, PLASTIC NATURE, &c.) A reformed ſyſtem of the Peripatetic philoſophy was firſt introduced into the ſchools in the univerſity of Paris, from whence it was ſpread throughout Europe: and has ſubſiſted in ſome univerſities even to this day, under the name of *ſchool philoſophy*. The foundation thereof is Ariſtotle's doctrine, often miſunderſtood, but oftener miſapplied: whence the retainers thereto may be denominated *Reformed Peripatetics*. Out of theſe have ſprung, at various times, ſeveral branches; the chief are, the THOMISTS, SCOTISTS, and NOMINALISTS. See theſe articles. The Peripatetic ſyſtem, after having prevailed with great and extenſive dominion for many centuries, began rapidly to decline towards the cloſe of the 17th, when the diſciples of Ramus attacked it on the one hand, and it had ſtill more formidable adverſaries to encounter in Deſcartes, Gaſſendi, and Newton. See PHILOSOPHY.

PERIPATON, in antiquity, the name of that walk in the Lyceum where Ariſtotle taught, and whence the name of Peripatetics given to his followers.

PERIPETIA, in the drama, that part of a tragedy wherein the action is turned, the plot unravelled, and the whole concludes. See CATASTROPHE, § 2.

(1.) * PERIPHERY. *n. ſ.* [περὶ and φέρω; *periphérie*, Fr.] Circumference.—Neither is this ſole vital faculty ſufficient to exterminate noxious humours to the *periphery* or outward parts. *Harvey.*

(2.) PERIPHERY. See GEOMETRY.

* *To* PERIPHRASE. *v. a.* [*periphraſer*, Fr.] To expreſs one word by many; to expreſs by circumlocution.

(1.) * PERIPHRASIS. *n. ſ.* [περίφρασις; *periphraſe*, Fr.] Circumlocution; uſe of many words to expreſs the ſenſe of one: as, for *death*, we may ſay, *the loſs of life.*—

She contains all bliſs,
And makes the world but her *periphraſis*.
Cleaveland.

—They make the gates of Thebes and the mouths of this river a conſtant *periphraſis* for this number ſeven. *Brown.*—They ſhew their learning uſeleſly, and make a long *periphraſis* on every word of the book they explain. *Watts.*—The *periphraſes* and circumlocutions, by which Homer expreſſes the ſingle act of dying, have ſupplied ſucceeding poets with all their manners of phraſing it. *Pope.*

(2.) PERIPHRASIS. See ORATORY.

* PERIPHRASTICAL. *adj.* [from *periphraſis.*] Circumlocutory; expreſſing the ſenſe of one word in many.

PERIPLOCA, Virginian ſilk, in botany: A genus of the digynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 30th order, *Contortæ*. The nectarium ſurrounds the genitals, and ſends out five filaments. There are five ſpecies, four of which are natives of warm climates, and can only be raiſed there. The fifth, however, is ſufficiently hardy for this climate. The periploca is a fine climbing plant, that will wind itſelf with its ligneous branches about whatever tree, hedge, pale, or pole is near it; and will ariſe, by the aſſiſtance of ſuch ſupport, to the height of above 30 feet; and where no tree or ſupport is at hand to wind about, it will knit or entangle itſelf together in a moſt complicated manner. The ſtalks of the older branches, which are moſt woody, are covered with a dark brown bark, whilſt the younger ſhoots are more mottled with the different co-

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lours of brown and grey, and the ends of the youngeſt ſhoots are often of a light green. The ſtalks are round, and the bark is ſmooth. The leaves are the greateſt ornament to this plant; for they are tolerably large, and of a good ſhining green colour on their upper ſurface, and cauſe a variety by exhibiting their under ſurface of an hoary caſt. Their figure is oblong, or rather more inclined to the ſhape of a ſpear, as their ends are pointed, and they ſtand oppoſite by pairs on ſhort footſtalks. Their flowers have a ſtar-like appearance; for though they are compoſed of one petal only, yet the rim is divided into ſegments, which expand in ſuch a manner as to form that figure. Their inſide is hairy, as is alſo the nectarium which ſurrounds the petal. Four or five of the flowers grow together, forming a kind of umbel. They are of a chocolate colour, are ſmall, and are in blow in July and Auguſt, and ſometimes in September. In the country where this genus grows naturally, they are ſucceeded by a long taper pod, with compreſſed ſeeds, having down to their tops. The propagation of this climber is very eaſy; for if the cuttings are planted in a light moiſt ſoil, in the autumn or in the ſpring, they will readily ſtrike root. Three joints at leaſt ſhould be allowed to each cutting: they ſhould be the bottom of the preceding ſummer's ſhoot; and two of the joints ſhould be planted deep in the ſoil. Another, and a never-failing method, is by layers; for if they are laid down in the ground, or a little ſoil only looſely thrown over the young preceding ſummer's ſhoots, they will ſtrike root at the joints, and be good plants for removing the winter following.

(1.) * PERIPNEUMONIA. } *n. ſ.* [περι and
(1.) * PERIPNEUMONY. } πνευμων; *peripneumónie*, Fr.] An inflammation of the lungs.—Groſs reliques of *peripneumonia* or inflammation of the lungs. *Harvey.*—A *peripneumony* is the laſt fatal ſymptom of every diſeaſe; *Arbuthnot.*

(2.) PERIPNEUMONY is attended with an acute fever, and a difficulty of breathing. See MEDICINE, *Index.*

PERIRRHANTERIUM, a veſſel of ſtone or braſs, which was filled with holy water, and with which all thoſe were ſprinkled who were admitted by the ancients to their ſacrifices. Beyond this veſſel no profane perſon was allowed to paſs. It was uſed both by Greeks and Romans, and has been evidently borrowed by the Church of Rome. The Hebrews alſo had a veſſel for purification.

PERISCII, in geography, the inhabitants of either frigid zone, between the polar circles and the poles, where the ſun, when in the ſummer ſigns, moves only round about them, without ſetting; and conſequently their ſhadows in the ſame day turn to all the points of the horizon.

(1.) * *To* PERISH. *v. n.* [*perir*, Fr. *pereo*, Lat.] 1. To die; to be deſtroyed; to be loſt; to come to nothing. It ſeems to have *for* or *with* before a cauſe, and *by* before an inſtrument. *Locke* has *by* before the cauſe.—

I burn, I pine, I *periſh*,

If I atchieve not this young modeſt girl. *Shak.*—If I have ſeen any *periſh for* want of clothing. *Job.* xxxi. 29.—He keepeth his life from *periſhing by* the ſword. *Job* xxxiii. 18.—They *periſh* from off the good land. *Deut.* xi. 18.—I *periſh* with hunger. *Luke* xv. 17.—The ſick are laid on the earth to *periſh*. *Locke.*—Thoughts of a ſoul that *periſh* in thinking. *Locke.*—Expoſing their children, and leaving them in the fields to *periſh* want, has been the practice. *Locke.*—

Some Athens *periſhes*. or Tully bleeds. *Pope.*—The ſubjects *periſhed* through their own fa—

Pope. 2. To be in a perpetual ſtate of decay. Duration, and time which is a part of it, is idea we have of *periſhing* diſtance, of which two parts exiſt together, but follow in ſucceſ *Locke.* 3. To be loſt eternally.—Theſe that terly *periſh*. 2 *Peter*, ii. 12.—O ſuffer me not *periſh* in my ſins. *Moreton.*

(2.) * *To* PERISH. *v. a.* To deſtroy; to de Not in uſe.—

Becauſe thy flinty heart more hard rocks,
Might in thy palace *periſh* Margaret.
Rife, prepar'd in black, to mourn *riſh'd* lord.

—This cloſeneſs did a little *periſh* his under ings. *Collier.*—

You weep not for a *periſh'd* lord alone.

* PERISHABLE. *adj.* [from *periſh*.] Li periſh; ſubject to decay; of ſhort durati Bodily ſubſtances and *periſhable* natures. Ra —Authority not *periſhable* by time. *Addiſon.* princes greateſt preſent felicity to reign in ſubjects hearts; but the ſeare too *periſhable* t ſerve their memories. *Swift.*—This frail an *riſhable* compoſition of fleſh and blood. Ra

Thrice has he ſeen the *periſhable* kind Of men decay.

* PERISHABLENESS. *n. ſ.* [from *per* Liableneſs to be deſtroyed; liableneſs to de Suppoſe an iſland having nothing becauſe commonneſs and *periſhableneſs* fit to ſupp place of money. *Locke.*

PERISPA, a town of Perſia, in the pro Irak, 18 miles S. of Amadan.

* PERISTALTICK. *adj.* [περιστελλω; *peri* Fr.] *Periſtaltick* motion is that vermicular, of the guts, which is made by the contra the ſpiral fibres, whereby the excrements a ſed downwards and voided. *Quincy.*

(1.) * PERISTERION. *n. ſ.* The herb v

(2.) PERISTERION. See VERBENA.

* PERISTYLE. *n. ſ.* [*periſtile*, Fr.] A range of pillars.—The Villa Gordiana had *tyle* of two hundred pillars. *Arbuthnot.*

* PERISYSTOLE. *n. ſ.* [περι συστολη.] The or interval betwixt the two motions of th or pulſe; namely, that of the ſyſtole or co tion of the heart, and that of the diaſtole latation. *Dict.*

PERITAS, a cluſter of iſlands of S. A in the S. Sea, 9 miles W. of Cumana bay.

PERITO, a town of Naples, in Abruz tra, 16 miles WSW. of Celano.

(1.) * PERITONEUM. *n. ſ.* [περιτονιον; *p* Fr.] This lies immediately under the muſcle lower belly, and is a thin and ſoft mem which encloſes all the bowels contained lower belly, covering all the inſide of its *Dict.*—Wounds which reach no farther t the *peritoneum*. *Wiſeman.*

(2.

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(2.) PERITONEUM. See ANATOMY, *Index*.
PERITONIUM, a town of Egypt, on the W. ...k of the Nile, reckoned one of the keys of ...e country. Mark Antony was defeated near ... by Corn. Gallus, a lieutenant of Auguſtus.
PERITROCHIUM, in mechanics, denotes a ..., or circle, concentric with the baſe of a cy..., and moveable together with it about its ... See MECHANICS.
PERIVALE, a ſmall village in Middleſex, for... Little Greenford, or Gauford, N. of Great ...; but properly a rich vale of corn land ex...ding from Heton to Harrow on the Hill and ...er.
PERJURE. *n. ſ.* [*perjurus*, Lat.] A perjured ...ſworn perſon. A word not in uſe.—
Hide thee,
...hou *perjure*, thou ſimular of virtue. *Shak.*
To PERJURE. *v. a.* [*perjuro*, Lat. To for...; to taint with perjury. It is uſed with the ...cal pronoun: as, *he perjured himſelf.*—
The right hand
...*perjur'd* to the boſom. *Shak.*
...law is made for *perjur'd* perſons. 1 *Tim.*
PERJURER. *n. ſ.* [from *perjure*.] One that ...falſely.—Works vengeance on the *perju...rer*.
PERJURY. *n. ſ.* [*perjuriam*, Lat.] Falſe
What ſcourge for *perjury*
...dark monarchy afford falſe Clarence? *Shak.*
PERJURY, in law, is defined by Sir Edward ...be a crime committed when a lawful oath ...inſtered, in ſome judicial proceeding, to a ...who ſwears wilfully, abſolutely, and falſe... matter material to the iſſue or point in ... In ancient times it was in ſome places ...ed with death; in others it made the falſe ...r liable to the puniſhment due to the crime ...charged the innocent perſon with; in o... pecuniary mulct was impoſed. See OATH.
PERJURY, in Scots law. See LAW, *Part* ... III. *Sect.* IV. § 34, 35.
PERIWIG. *n. ſ.* [*perruque*, Fr.] Adſcititious ...r not natural, worn by way of ornament ...ealment of baldneſs.
...get me ſuch a colour'd *periwig*. *Shak.*
...ends me to hear a robuſtious *periwig*-pat... *Shak.*—
The ſun
...s but for ladies *periwigs* and tires. *Donne.*
...not thy *periwig* be call'd. *Cleaveland.*
...highneſs and the marquis bought each a ... *Wotton.*—They uſed falſe hair or *peri...wigs not.*—A *periwig* of twiſted ſnakes.
PERIWIG. *v. a.* [from the noun.] To dreſs ... hair.—
...ow when the winter's keener breath be...gan
...*riwig* with ſnow the bald-pate woods. *Sylveſter.*
...cord *periwig'd* with ſnakes,
...the dreadful ſtrides ſhe takes. *Swift.*
PERIWINKLE. *n. ſ.* 1. A ſmall ſhell fiſh; a kind of fiſh ſnail.—Upon her head a coronet of *periwinkle* and eſcalop ſhells. *Peacham.* 2. [*Clematis.*] A plant.—There are in uſe, for the prevention of the cramp, bands of green *periwinkle* tied about the calf of the leg. *Bacon.*—A common ſimple with us is *periwinkle*. *Wiſeman.*

PERIZONIUS, James, a learned and laborious writer, born at Dam in 1651. He became profeſſor of hiſtory and eloquence at the univerſity of Franeker, when, by his merit and learning, he made that univerſity flouriſh. However, in 1693, he went to Leyden, where he was made profeſſor of hiſtory, eloquence, and Greek; in which employment he continued till his death, in 1715. He wrote many learned and curious works, particularly *Origines Babylonicæ et Egyptiacæ*, 2 vols 8vo, &c. But his work, moſt generally known, is the notes upon *Sanctii Minervam*.

PERIZZITES, ancient inhabitants of Paleſtine, mingled with the Canaanites. They did not inhabit any certain portion of the land of Canaan; there were ſome of them on both ſides the river Jordan, in the mountains, and the plains.

* PERK. *adj.* Pert; briſk; airy. Obſolete.
They wag their wriggle tails,
Perk as a peacock, but nought avails. *Spenſ.*

(1.) * *To* PERK. *v. n.* [from *perch*, *Skinner*.] To hold up the head with an affected briſkneſs.—
If, after all, you think it a diſgrace,
That Edward's miſs thus *perks* it in your face.
Pope.

(2.) * *To* PERK. *v. a.* To dreſs; to prank.—
'Tis better to be lowly born,
Than to be *perk'd* up in a gliſt'ring grief. *Shak.*

PERKIN. See CYDERKIN.

(1.) PERKINEAN, *adj.* of or belonging to PERKINISM.

(2.) PERKINEAN SOCIETY, a ſociety lately inſtituted at N°3, Frith Street, Soho, London; for the relief of the afflicted poor, by the uſe of the metallic tractors. The liſt of ſubſcribers is numerous and reſpectable. If PERKINISM be an *impoſition*, or *deception*, as ſome allege, an incredible number of perſons of all ranks are deceived.

PERKINISM, in medicine, is a method of curing head-achs, megrams, rheumatiſms, quinſies, gouts, lumbagos, cramps, contuſions, ſprains, tumors, burns, ſcalds, eryſipelas, palſies, and various other diſeaſes and pains in all parts of the body, by drawing METALLIC TRACTORS over the parts affected; invented by Dr Perkins of N. America. Theſe tractors are made of ſilver, braſs, copper, iron, lead, or zinc; and even of ivory and ebony; and are ſuppoſed to act as mechanical ſtimuli, or as galvanic conductors of electricity. Experiments have been made with ſucceſs by other phyſicians and ſurgeons, particularly Dr J. C. Tode, phyſician to the king of Denmark, and profeſſors Herholdt and Rafn, of Copenhagen, who publiſhed *a treatiſe on Perkiniſm*, and firſt made uſe of the term. Many other tracts have ſince been publiſhed in London, exhibiting a great number of caſes, and about 2000 cures, ſeemingly all well atteſted, performed upon perſons of all ages, from infancy to upwards of 70. But whether their ſucceſs is to be attributed to inherent virtue, or to the imagination of the patient, is not for us

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to determine. It would appear, however, that in many well authenticated cases of cures performed on brutes, the latter could have no influence.

PERLEBERG, a town of Upper Saxony, capital of Prignitz. It was pillaged by the Swedes in 1638. It lies 62 miles NW. of Berlin.

PERLETHORP, a village in Edengstow parish, Nottinghamshire.

* PERLOUS. *adj.* [from *perilous.*] Dangerous; full of hazard.—

A *perlous* passage. *Spenser.*
Late he far'd
In Phædra's fleet bark o'er the *perlous* shard. *Spenser.*

(1.) PERM, a government of Russia, formerly a province of Kasan. It is divided into two provinces, viz. PERM (N° 2.) and CATHARINENBURG.

(2.) PERM, a province in the above government, seated on the banks of the Kama.

(3.) PERM, the capital of the above government and province, seated at the conflux of the Kama and the Zegoehekha, 808 miles E. of Petersburg, and 620 E. of Moscow. Lon. 74. 0. E. of Ferro. Lat. 57. 40. N.

PERMACOIL, a town of Hindoostan, in the Carnatic, 17 miles NNW. of Pondicherry, and 45 SSE. of Arcot. It was taken by the British under Col. Coote, in 1760. See INDIA, § 18.

* PERMAGY. *n. s.* A little Turkish boot. *Dict.*

* PERMANENCE. } *n. s.* [from *permanent.*]
* PERMANENCY. } 1. Duration; consistency; continuance in the same state; lastingness.—Salt, they say, is the basis of solidity and *permanency* in compound bodies. *Boyle.*—Shall I dispute whether there be any such material being, that hath such a *permanence* or fixedness in being. *Hale.*—From the *permanency* and immutability of nature. *Burnet.* 2. Continuance in rest.—Such a punctum to our conceptions is almost equivalent to *permanency* and rest. *Bentley.*

* PERMANENT. *adj.* [*permanent*, Fr. *permanens*, Lat.] 1. Durable; not decaying; unchanged.—All laws which God hath made, are necessarily forever *permanent*. *Hooker.*—That eternal duration should be at once, is utterly unconceivable, and that one *permanent* instant should be commensurate or rather equal to all successions of ages. *More.*—

Eternity stands *permanent* and fixt. *Dryden.*

2. Of long continuance.—These, or such other light injuries, which leave no *permanent* effect. *Kettlewell.*

* PERMANENTLY. *adv.* [from *permanent.*] Durably; lastingly.—It does, like a compact or consistent body, deny to mingle *permanently* with the contiguous liquor. *Boyle.*

* PERMANSION. *n. s.* [from *permaneo*, Lat.] Continuance.—Although we allow that hares may exchange their sex sometimes, yet not in that vicissitude it is presumed; from female unto male, and from male to female again, and so in a circle without a *permansion* in either. *Brown.*

* PERMEABLE. *adj.* [from *permeo*, Lat.] Such as may be passed through.—The pores of a bladder are not easily *permeable* by air. *Boyle.*

* PERMEANT. *adj.* [*permeans*, Latin.] Passing through.—It entereth not the veins, but taketh leave of the *permeant* parts at the mouth of the meseraicks. *Brown.*

* *To* PERMEATE. *v. a.* [*permeo*, Lat.] To pass through.—This heat evaporates and elevates the water of the abyss, pervading not only the fissures, but the very bodies of the strata, *permeating* the interstices of the sand, or other matter whereof they consist. *Woodward's Natural History.*

* PERMEATION. *n. s.* [from *permeate.*] The act of passing through.

* PERMISCIBLE. *adj.* [from *permisceo*, Lat.] Such as may be mingled.

* PERMISSIBLE. *adj.* [*permissus*, Lat.] What may be permitted.

* PERMISSION. *n. s.* [*permission*, Fr. *permissus*, Lat.] Allowance; grant of liberty.—

With thy *permission* then, and thus forewarn'd
The willinger I go. *Milton.*
—You have given me your *permission* for this address. *Dryden.*

* PERMISSIVE. *adj.* [from *permitto*, Lat.] 1. Granting liberty, not favour; not hindering though not approving.—

We bid this be done,
When evil deeds have their *permissive* pass,
And not the punishment. *Shakespeare.*
Hypocrisy, the only evil that walks
Invisible, except to God alone
By his *permissive* will, through heav'n and earth. *Milton.*

2. Granted; suffered without hinderance; not authorised or favoured.—If this doth authorise that which before was but *permissive*. *Bacon's Essays.*

Thus I embolden'd spake, and freedom won
Permissive, and acceptance found. *Milton.*
Clad
With what *permissive* glory since his fall
Was left him, or false glitter. *Milt. Par. L.*

* PERMISSIVELY. *adv.* [from *permissive.*] By bare allowance; without hinderance.—As to those for the propagation of the christian faith, I would be glad to hear spoken concerning the lawfulness not only *permissively*, but whether it be not obligatory to christian princes to design it. *Bacon.*

* PERMISTION. *n. s.* [*permistus*, Lat.] The act of mixing.

* PERMIT. *n. s.* A written permission from an officer for transporting of goods from place to place, showing the duty on them to have been paid.

* *To* PERMIT. *v. a.* [*permitto*, Lat. *permettre*, Fr.] 1. To allow without command.—Whatsoever things God doth neither command nor forbid, the same he *permitteth*, &c. *Hooker.* 2. To suffer without authorising or approving. 3. To allow, to suffer.—It is not *permitted* unto women to speak. 1. *Corinthians*, xiv. 34.—

Ye gliding ghosts, *permit* me to relate.
—Age *permits* not that our mortal men
should retain the vigour of our youth. *Dryden.*
—We should not *permit* an allowed, possible, great and weighty good to slip out of our thoughts. *Locke.*—After men have acquired as much as the laws *permit* them, &c. *Swift.* 4. To give up, to resign.—

Nor love thy life, nor hate; but what thou liv'st,

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Live well; how long, how ſhort, *permit* to heav'n. *Milton.*

—If the courſe of truth be *permitted* unto itſelf, it cannot eſcape many errours. *Brown.*—

To the gods *permit* the reſt. *Dryden.*

Laws, empire, all *permitted* to the ſword. *Dryden.*

Unto the gods *permit* th' event of things. *Addiſon's Cato.*

* PERMITTANCE. *n. ſ.* [from *permit.*] Allowance; forbearance of oppoſition; permiſſion. A bad word.—When this ſyſtem of air comes, by divine *permittance*, &c. *Derham.*

* PERMIXTION. *n. ſ.* [from *permiſtus*, Lat.] The act of mingling; the ſtate of being mingled.—They fell into the oppoſite extremity of one nature in Chriſt, the divine and human natures in Chriſt, in their conceits, by *permixtion* and confuſion of ſubſtances, &c. *Brerewood.*

PERMSKI, or PERMIA, a town of the Ruſſian empire, and capital of a province of the ſame name, ſituated on the Kama between the Dwina and the Oby. The province is bounded N. by the Samoiedes, W. by Zirania and Ulatka, and E. by Siberia. The town lies in Lon. 55. 50. E. Lat. 58. 36. N.

PERMSKOI, one of the 41 Governments of Ruſſia, formerly a province of Kaſan. It is divided into two provinces; namely, Perm, the capital of which is of the ſame name, ſeated on the river Kama, where it receives the Zegochekha, in Lat. 57. 40. N. Lon. 54. 6. E. and Catherinenburg, the capital of which of the ſame name, is ſituated not far from the ſource of the river Iſſet, in Lat. 56. 36. N. Lon. 60. 30. E.

* PERMUTATION. *n. ſ.* [*permutation*, Fr. *permutatio*, Lat.] Exchange of one for another. "A *permutation* of number is frequent in languages." *Bentley.*—Gold and ſilver, by their rarity, are wonderfully fitted for the uſe of *permutation* for all ſorts of commodities. *Ray.*

* To PERMUTE. *v. a.* [*permuto*, Lat. *permuter*, Fr.] To exchange.

* PERMUTER. *n. ſ.* [*permutant*, Fr. from *permute.*] An exchanger; he who permutes.

PERNABIACABA, a mountain of Brazil, near Para.

PERNALLA, a town of Hindooſtan, in Guzerat; 38 miles S. of Surat. Lon. 72. 53. E. Lat. 21. 35. N.

PERNAMBUCO. See OLINDA.

(1.) PERNE, a town of France, in the dep. of the Mouths of the Rhone.

(2.) PERNE, a town of France in the dep. of the Straits of Calais.

PERNEAU, a town of Ruſſia, in Livonia, with a caſtle, near the mouth of a river, ſo named, 35 miles N. of Riga. Lon. 23. 37. E. Lat. 58. 28. N.

PERNEK, a fort of Hungary, 12 miles N. of Presburg.

(1.) PERNES, a town of France, in the dep. of the Straits of Calais, and ci-devant prov. of Artois, on the Clarence; 17 miles NW. of Arras. Lon. 2. 31. E. Lat. 50. 29. N.

(2.) PERNES. See PERNE.

PERNIA, a town of Croatia; 16 miles SE. of Carlſtadt.

* PERNICIOUS. *adj.* [*perniciosus*, Lat. *pernicieux*, Fr.] 1. Miſchievous in the higheſt degree; deſtructive.—It would be hurtful, if not *pernicious.* *Hooker.*—

I call you ſervile miniſters,
That have with two *pernicious* daughters join'd
Your high engender'd battles, 'gainſt a head
So old and white as this. *Shakeſp. King Lear.*

Let this *pernicious* hour
Stand ay accurſed in the kalendar! *Shakeſpeare.*

2. [*Pernix*, Latin.] Quick. An uſe which I have found only in *Milton*, and which, as it produces an ambiguity, ought not to be imitated.—

Part incentive reed
Provide, *pernicious* with one touch to fire. *Milt.*

* PERNICIOUSLY. *adv.* [from *pernicious.*] Deſtructively; miſchievouſly; ruinouſly.—Some *perniciouſly*, againſt their own conſcience, have taught. *Aſcham.*—

All the commons
Hate him *perniciouſly*. *Shakeſp. Henry* VIII.

* PERNICIOUSNESS. *n. ſ.* [from *pernicious.*] The quality of being pernicious.

* PERNICITY. *n. ſ.* [from *pernix.*] Swiftneſs; celerity.—Others are endued with great *pernicity.* *Ray.*

PERNIO, a kibe or chilblain, is a little ulcer, occaſioned by cold in the hands, feet, heels, noſe, and lips. It will come on when warm parts are too ſuddenly expoſed to cold, or when parts from being too cold are ſuddenly expoſed to a conſiderable warmth; and has always a tendency to gangrene, in which it frequently terminates. It moſt commonly attacks children of a ſanguine habit and delicate conſtitution; and may be prevented or removed by ſuch remedies as invigorate the ſyſtem, and are capable of removing any tendency to gangrene in the conſtitution.

PERNO a town of Nyland, in Sweden.

PERNOV, a town in the government of Riga, on a river near the Baltic.

PERNSTAIN, a town of Germany, in Auſtria; 12 miles NNW. of Wolfgang.

PERONÆUS, in anatomy. 3 muſcles of the perone or fibula. See ANATOMY, § 217, N° 8, 9, 11.

PERONES, a ſort of high ſhoes which in early times were worn even by ſenators; but at laſt were confined to ploughmen and labourers. They were very rudely formed, conſiſting only of hides undreſſed, and reaching to the middle of the leg. Virgil mentions the perones as worn by a company of ruſtic ſoldiers on one foot only.

PERONNE, a ſtrong town of France, in the dep. of the Somme and late prov. of Picardy. It is called *La Pucelle*, i. e. *the Virgin*, becauſe it has never been taken, though often beſieged. It is very ancient. The Merovingian kings had a palace in it, and Charles the Simple was impriſoned and died in its caſtle. Lewis XI. was alſo detained in it, by the D. of Burgundy, till he was forced to ſign a diſadvantageous treaty. It has 17,000 citizens; and is ſeated on the Somme, 27 miles SW. of Cambray, and 80 E. by N. of Paris. Lon. 3. 2. E. Lat. 49. 55. N.

(1.) * PERORATION. *n. ſ.* [*peroratio*, Lat.] The concluſion of an oration.—

What

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What means this paſſionate diſcourſe?
This *peroration* with ſuch circumſtances? *Shak.*
True woman to the laſt—my *peroration*
I come to ſpeak in ſpite of ſuffocation. *Smart.*

(2.) PERORATION conſiſts of two parts. 1. Recapitulation; wherein the ſubſtance of what was diffuſed throughout the whole ſpeech is collected briefly and curſorily, and ſummed up with new force and weight. 2. The moving the paſſions; which is ſo peculiar to the peroration, that the maſters of the art call this part *ſedes affectuum*. See ORATORY.

PEROSE, a village of England, in Cornwall.

PEROTIS, in botany, a genus of the digynia order, belonging to the triandria claſs of plants; and in the natural method ranking under 4th order, *Gramina*. There is no calyx: the corolla conſiſts of a bivalvular glume; the valves are oblong, acute, ſomewhat unequal, and terminating in a ſharp beard: it has three capillary ſtamina; the antheræ incumbent; the ſtyle capillary, and ſhorter than the corolla; the ſtigma feathery and divaricated. The corolla ſerves as a perianthium, including a ſingle ſeed of an oblong linear ſhape. —Of this there is only one ſpecies; viz.

PEROTIS PLUMOSUS, a native of America.

PEROUGE, a town of France, in the dep. of Ain, a mile W. of Meximieux, and 2 NE. of Montluel.

PEROUSA, a town of the French republic, in the dep. of the Po, and Piedmonteſe, 16 m. SW. of Turin.

PEROUSE, John Francis Galaup, a celebrated, but unfortunate French navigator born at Albi, in 1741. He entered early into the marine ſchool, and ſerved 5 years during the war. In Oct. 1764, he was made enſign, and acted in the E. Indies from 1765 to 1777. He ſerved under D'Eſtaing in the following war, and in 1782, was appointed on the difficult taſk of deſtroying the Britiſh ſettlements at Hudſon's Bay, which he accompliſhed, and returned in 1783. In 1785, he was ſent by Lewis XVI. with two ſhips on a voyage of diſcovery, but periſhed with his whole crews, having never been heard of, ſince he left Botany Bay, in Jan. 1788. His voyage was publiſhed at Lond. 1798, in 3 vols. 8vo. and contains numerous important diſcoveries in various ſciences.

* *To* PERPEND. *v. a.* [*perpendo*, Lat.] To weigh in the mind; to conſider attentively.—

Thus it remains and the remainder thus;
Perpend. *Shak.*
Perpend, my princeſs and give ear. *Shak.*
—Duly *perpend* the diſcoveries of men. *Brown.*

* PERPENDER. *n. ſ.* [*perpigne*, Fr.] A coping ſtone.

* PERPENDICLE. *n. ſ.* [*perpendicule*, Fr. *perpendiculum*, Lat.] Any thing hanging down by a ſtrait line. *Dict.*

(1.) * PERPENDICULAR. *adj.* [*perpendiculaire*, Fr. *perpendicularis*, Latin.] 1. Croſſing any other line at right angles. Of two lines, if one be perpendicular, the other is perpendicular too.—

If in a line oblique their atoms rove,
Or in a *perpendicular* they move; *Blackmore.*

—The angle of incidence is that angle, which the line, deſcribed by the incident ray, contains with the *perpendicular* to the reflecting or refracting ſurface at the point of incidence. *Newton.* 2. Cutting the horizon at right angles.—Some define the *perpendicular* altitude of the higheſt mountains to be four miles. *Brown.*

(2.) * PERPENDICULAR. *n. ſ.* A line croſſing the horizon at right angles.—Though the quantity of water thus riſing and falling be nearly conſtant as to the whole, yet it varies in the ſeveral parts of the globe; by reaſon that the vapours float in the atmoſphere, and are not reſtored down again in a *perpendicular* upon the ſame preciſe tract of land. *Woodward.*

(3.) PERPENDICULAR. See GEOMETRY, *Index.*

* PERPENDICULARITY. *n. ſ.* [from *perpendicular.*] The ſtate of being perpendicular.—The meeting of two lines is the primary eſſential mode or difference of an angle; the *perpendicularity* of theſe lines is the difference of a right angle. *Watts.*

* PERPENDICULARLY. *adv.* [from *perpendicular.*] 1. In ſuch a manner as to cut another line at right angles. 2. In the direction of a ſtrait line up and down.—

Thou haſt *perpendicularly* fall'n. *Shak.*
—Irons cooled *perpendicularly*, acquire a directive faculty. *Brown.*—Shoot up an arrow *perpendicularly* it will return to your foot again. *More.*—All weights move *perpendicularly* downward. *Ray.*

* PERPENSION. *n. ſ.* [from *perpend.*] Conſideration. Not in uſe.—Unto reaſonable *perpenſions* it hath no place in ſome ſciences. *Brown.*

* *To* PERPETRATE. *v. a.* [*perpetro*, Lat. *perpetrer*, Fr.] 1. To commit; to act. Always in an ill ſenſe.—

I'ts true and *perpetrated* in our days. *Taylor.*
Theſe they returning will to death require,
Will *perpetrate* on them the firſt deſign,
And take the forfeit of their heads for mine.
Dryden.
Fierce Romulus, for *perpetrated* crimes,
A ſacred refuge made. *Dryden.*

2. It is uſed by *Butler* in a natural ſenſe, in compliance with his verſe, but not properly.—

For whatſoe'er we *perpetrate*,
We do but row, we're ſteer'd by fate. *Hudibras.*

* PERPETRATION. *n. ſ.* [from *perpetrate.*] 1. The act of committing a crime.—A deſperate diſcontented aſſaſſinate would, after the *perpetration*, have honeſted a mere private revenge. *Wotton.*—A woman, who lends an ear to a ſeducer, may be inſenſibly drawn into the *perpetration* of the moſt violent acts. *Clariſſa.* 2. A bad action.—The ſtrokes of divine vengeance, always attended injurious *perpetrations*. *K. Charles.*

(1.) * PERPETUAL. *adj.* [*perpetuel*, Fr. *perpetuus*, Latin.] 1. Never ceaſing; eternal with reſpect to futurity.—Under the ſame moral, and therefore under the ſame *perpetual* law. *Holyday.*

Mine is a love, which muſt *perpetual* be.
Dryden.

2. Continual; uninterrupted; perennial.—

Within thoſe banks rivers now
Stream, and *perpetual* draw their humid train.
Milton.

—By the muſcular motion and *perpetual* flux of the liquids, a great part of them is thrown out of the body. *Arbuthnot.* 3. Perpetual ſcrew. A ſcrew which acts againſt the teeth of a wheel and

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and continues its action without end.—A *perpetual* screw hath the motion of a wheel and the force of a screw, being both infinite. *Wilkins.*

(2.) PERPETUAL MOTION. See MOTION, § 9.

(3.) PERPETUAL MOVEMENT. See MOVEMENT, N° 4.

* PERPETUALLY. *adv.* [from *perpetual.*] Constantly; continually; inceſſantly.—The numbers are *perpetually* varied. *Dryden.*—Doth it not grow denſer and denſer *perpetually*? *Newton.*—The bible being *perpetually* read in churches. *Swift.*

* *To* PERPETUATE. *v. a.* [*perpetuer*, Fr. *perpetuo*, Lat.] 1. To make perpetual; to preſerve from extinction; to eternize.—Medals, *perpetuate* the glories of her majeſty's reign. *Addiſon.*—Man cannot deviſe any other method ſo likely to preſerve and *perpetuate* the knowledge and belief of a revelation. *Forbes.* 2. To continue without ceſſation or intermiſſion.—A continued *perpetuated* voice from heaven. *Hammond.*

* PERPETUATION. *n. ſ.* [from *perpetuate.*] The act of making perpetual; inceſſant continuance.—*Perpetuation* of an ancient cuſtom. *Brown.*

* PERPETUITY. *n. ſ.* [*perpetuité*, Fr. *perpetuitas*, Lat.] 1. Duration to all futurity.—God for *perpetuity* hath eſtabliſhed laws. *Hooker.*—

Groan ſo in *perpetuity*. *Shak. Cymbeline.*

We ſhould, for *perpetuity*,
Go hence in debt. *Shak. Winter's Tale.*

—Nothing wanted to his noble and heroical intentions, but only to give *perpetuity* to that which was in its time ſo happily eſtabliſhed. *Bacon.*—There can be no other aſſurance of the *perpetuity* of this church, but what we have from him that built it. *Tayl.* 2. Exemption from; intermiſſion; or ceſſation.—A cycle or period begins again as often as it ends, and ſo obtains a *perpetuity*. *Holder.*—The goſpel enjoins a conſtant diſpoſition of mind to practiſe all chriſtian virtues, not a *perpetuity* of exerciſe and action. *Nelſon.* 3. Something of which there is no end.—A preſent repaſt for a *perpetuity*. *Addiſ.*—The ennobling property of the pleaſure, that accrues to a man from religion, is, that he that has the property, may be alſo ſure of the *perpetuity*. *South.*—

The laws of God as well as of the land
Abhor a *perpetuity* ſhould ſtand. *Pope.*

PERPIGNAN, a conſiderable town of France, in the dep. of the Eaſtern Pyrennees, with a ſtrong citadel and an univerſity. It is ſeated on the river Tet; over which there is a handſome bridge, partly in a plain, and partly on a hill. Lon. 0. 43. E. Lat. 42. 18. N.

* PERPLEX. *adj.* [*perplex*, Fr. *perplexus*, Lat.] Intricate; difficult. *Perplexed* is the word in uſe.—How the ſoul directs the ſpirits is *perplex* in the dark. *Glanville's Sceptis.*

* *To* PERPLEX. *v. a.* [*perplexus*, Lat.] 1. To diſturb with doubtful notions; to entangle; to make anxious; to teaſe with ſuſpenſe or ambiguity; to diſtract; to embarraſs; to puzzle.—Being greatly *perplexed* in his mind, he determined to go into Perſia. 1 *Mac.* iii. 31.—Themſelves with doubts the day and night *perplex*. *Denh.*—He *perplexes* the minds of the fair ſex. *Dryden.*—We ſhall be apt to *perplex* the mind. *Locke.*—You *perplex* and confound the reader. *Waterland.* 2. To make intricate; to involve; to complicate.—

Their way
Lies through the *perplex'd* paths of this drear wood. *Milton.*

We both are involv'd
In the ſame intricate *perplext* diſtreſs. *Addiſon.*—What was thought obſcure, *perplexed*, will lie open. *Locke.* 3. To plague; to torment; to vex. A ſenſe not proper, nor uſed.—

How might ſuch killing eyes *perplex*. *Granv.*

* PERPLEXEDLY. *adv.* [from *perplexed.*] Intricately; with involution.

* PERPLEXEDNESS. *n. ſ.* [from *perplexed.*] 1. Embarraſſment; anxiety. 2. Intricacy; involution; difficulty.—Obſcurity and *perplexedneſs* have been caſt upon St Paul's Epiſtles from without. *Locke.*

* PERPLEXITY. *n. ſ.* [*perplexité*, Fr.] 1. Anxiety; diſtraction of mind.—The fear of him ever ſince hath put me into ſuch *perplexity*, as now you found me. *Sidney.*—*Perplexity* not ſuffering them to be idle, they think and do, as it were, in a phrenſy. *Hooker.*—

In penſive plight and ſad *perplexity*. *Spenſer.*

2. Entanglement; intricacy.—In the *perplexity* of his own thoughts. *Stilling fleet.*

* PERPOTATION. *n. ſ.* [*per* and *poto*, Lat.] The act of drinking largely.

(1.) PERQUIMANS, or PERQUIMINS, a county of N. Carolina in Edenton diſtrict, bounded on the W. by Chowan county, and E. by the Paſquotank and Paſquotank county. In 1795, it contained 3,562 citizens, and 1878 ſlaves.

(2.) PERQUIMANS, or (2.) PERQUIMINS, a river in the above county, to which it gives name.

(1.) * PERQUISITE. *n. ſ.* [*perquiſitus*, Latin.] Something gained by a place or office over and above the ſettled wages.—

Tell me, perfidious, was it fit,
To make my cream a *perquiſite*. *Widow and Cat.*

—The beſt *perquiſites* of a place are the advantages it gives a man of doing good. *Addiſon.*—

To what your lawful *perquiſites* amount. *Swift.*

(2.) PERQUISITE, in law, is any thing gotten by a man's own induſtry, or purchaſed with his money; in contradiſtinction to what deſcends to him from his father or other anceſtor.

* PERQUISITED. *adj.* [from *perquiſite.*] Supplied with perquiſites.—

If *perquiſited* varlets frequent ſtand. *Savage.*

* PERQUISITION. *n. ſ.* [*perquiſitus*, Latin.] An accurate enquiry; a thorough ſearch. *Ainſw.*

(1.) PERRAULT, Charles, ſon of an advocate in parliament, was born at Paris, in 1626. Colbert choſe him firſt clerk of the buildings, of which he was ſuperintendant, and afterward made him comptroller-general of the finances under him. He was one of the firſt members of the academy of the belles lettres and inſcriptions, and was received into the French academy in 1671. His poems *La Peinture*, and *La ſiecle de Louis le Grand*, are well known. He drew up elogies of great men of the 17th century, with portraits, and produced other eſteemed works.

(2.) PERRAULT, Claude, brother of Charles, was born at Paris in 1613; and was bred a phyſician, though he never practiſed but among his relations,

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lations, friends, and the poor. He excelled in architecture, painting, ſculpture, mathematics, phyſics, and all thoſe arts that relate to deſigning and mechanics. When the academy of ſciences was eſtabliſhed, he was one of its firſt members, and was chiefly depended on for mechanics and natural philoſophy. His works are, A French tranſlation of Vitruvius: *Memoires pour ſervir à l' Hiſtoire naturelle des Animaux*, folio, 1676, with figures; *Eſſais de Phiſique*, 4 vols 12mo, 1688; *Recueil des pluſieurs machines de novelle invention*, 4to, 1700, &c. He died in 1688.

(3, 4.) PERRAULT, Nicholas, and Peter, brothers of the two laſt, made themſelves alſo known in the literary world.

PERREAS. See PARIAS.

PERRECY, a town of France, in the dep. of Saone and Loire, 10½ miles NW. of Charolles.

PERREUX, a town of France, in the dep. of Rhone and Loire; 3 miles E. of Roanne.

PERRIERS, a town of France, in the dep. of the Channel; 8 miles N. of Coutances.

PERRITIO, a river of Naples, which runs into the Crate. in Calabria Citra.

PERRON, James Davy Du, a cardinal, diſtinguiſhed by his abilities and learning, born in Bern, in 1556; and educated by Julian Davy, his father, a very learned Calviniſt. Philip Deſportes, abbot of Tyron, made him known to Henry III. king of France, who conceived a great eſteem for him. Some time after Du Perron abjured Calviniſm, and embraced the eccleſiaſtical function. After the murder of Henry III. he retired to the houſe of Cardinal de Bourbon, and took great pains in bringing back the Proteſtants to the church of Rome. He chiefly contributed to engage Henry IV. to change his religion; and that prince ſent him to negociate his reconciliation to the holy ſee, in which he ſucceeded. Du Perron was conſecrated biſhop of Evreux while he reſided at Rome. He was made cardinal in 1604 by pope Clement VIII. at the ſolicitation of Henry IV. who afterwards nominated him to the archbiſhopric of Sens. He alſo ſent him to Rome with Card. Joyeuſe. in order to terminate the diſputes between Paul V. and the Venetians. He died at Paris in 1618. His works were collected after his death, and publiſhed at Paris in 3 vols. folio.

PERROS GUERIC, a town of France, in the dep. of the North Coaſts; 4½ miles N. of Lannion.

PERROT, Nicholas, lord of Ablancourt, a man of uncommon genius, born at Chalons in 1606. After ſtudying philoſophy about 3 years, he was ſent to Paris to follow the law. At 18 years of age he was admitted advocate of parliament, but ſoon diſcontinued his practiſe. In 1637 he was admitted a member of the French academy; he died in 1664. His works are moſtly tranſlations.

PERRUKE, PERUKE, or *Periwig*, was anciently a name for a long head of natural hair; ſuch, particularly, as there was care taken in the adjuſting and trimming of. The Latins called it *coma*; whence part of Gaul took the denomination of *Gallia Comata*, from the long hair which the inhabitants wore as a ſign of freedom. The word is now uſed for a ſet of falſe hair, curled, buckled, and ſewed together on a frame or cawl; anciently called *capillamentum* or "falſe perruke." The ancients uſed falſe hair, but the uſe of perukes, in their preſent mode, has not exiſted 2 centuries.

(1.) PERRY, Capt. John, an engineer, who reſided long in Ruſſia, having been recommended to the czar Peter while in England, as a perſon capable of ſerving him on a variety of occaſion relating to his new deſign of eſtabliſhing a fleet making his rivers navigable, &c. He was autho of The State of Ruſſia, 1716, 8vo, and An Ac count of the ſtopping of Dagenham Breach, 172 8vo. He died Feb. 11, 1733.

(2.) PERRY, a ſmall town of Huntingdonſhire, the pariſh of Great Stoughton.

(3.) * PERRY. *n. ſ.* [*poire*, Fr. from *poire*.] Cyd made of pears.—*Perry* is the next liquor in eſtee after cyder. *Mortimer*.

(4.) PERRY, the beſt pears for perry are tha which are moſt tart and harſh. Of theſe t Boſbury pear, the Bareland pear, and the h pear, are the moſt eſteemed for perry in Wor erſhire, and the ſquaſh pear, in Glouceſterſhir

(1.) PERSAIN, a river of Aſia, in Pegue, wh runs from the Ava, into the bay of Bengal.

(2.) PERSAIN, a town of Pegue on the abo river, 132 miles SW. of Pegue, and 252 SSE. Arracan.

PERSANTE, a river of Pomerania, which r into the Baltic, below Colberg.

PERSCHLING, a town and river of Auſt The river runs into the Danube, 3 miles abo Tuln.

* *To* PERSECUTE. *v. a.* [*perſecuter*, Fr. *perſecutus*, Lat.] 1. To haraſs with penalties; purſue with malignity. It is generally uſed of nalties inflicted for opinions.—*I perſecuted* this unto the death. *Acts*, xxii. 4. 2. To purſue repeated acts of vengeance or enmity.—

Relate,
For what offence the queen of heav'n bega
To *perſecute* ſo brave, ſo juſt a man! *Dry*
3. To importune much: as, he *perſecutes* me daily ſolicitations.

(1.) *PERSECUTION. *n. ſ.* [*perſecution*, Fr. *perſecutio*, Lat. from *perſecute*.] 1. The act or p tice of perſecuting.—The Jews raiſed *perſecu* againſt Paul and Barnabas, and expelled th *Acts* xiii. 50.—He endeavoured to prepare charge for the reception of the impending *p cution. Fell.*—

Heavy *perſecution* ſhall ariſe. *Mi*
—Thoſe who lived in the ages of *perſecution*. *diſon*. 2. The ſtate of being perſecuted.—I necks are under *perſecution*. *Lam.* v. 5.—Chri fortitude and patience had their opportuniti times of affliction and *perſecution*. *Spratt*.

(2.) PERSECUTION, in a more reſtrained ſen the ſufferings of Chriſtians on account of the ligion. Hiſtorians uſually reckon ten general ſecutions, the firſt of which was under the e ror Nero, 31 years after our Lord's aſcen when that emperor having ſet fire to the ci Rome, threw the odium of that execrable a on the Chriſtians, who under that pretence wrapped up in the ſkins of wild beaſts, and ried and devoured by dogs; others were cr ed, and others burnt alive. The ſecond wa der Domitian, in the year 95. In this per tion, St John the apoſtle was ſent to the iſ

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Patmos, in order to be employed in digging in the mines. The third began in the third year of Trajan, in the year 100, and was carried on with great violence for several years. The fourth was under Antoninus the philosopher, when the Christians were banished from their houses, forbidden to show their heads, reproached, beaten, hurried from place to place, plundered, imprisoned, and killed. The fifth began in the year 197, under the emperor Severus. The sixth began with the reign of the emperor Maximinus in 235. The seventh, which was the most dreadful persecution that had ever been known in the church, began in the year 250, in the reign of the emperor Decius, when the Christians were in all places driven from their habitations, stripped of their estates, tormented with racks, &c. The eighth began in the year 257, in the fourth year of the reign of the emperor Valerian. The ninth was under the emperor Aurelian, A. D. 274; but this was very inconsiderable: and the tenth began in the 19th year of Diocletian, A. D. 303. In this general persecution, which lasted ten years, houses filled with Christians were set on fire, and whole droves were tied together with ropes, and driven into the sea. See TOLERATION.

* PERSECUTOR. *n. s.* [*persecuteur*, Fr. from *persecute*.] One who harasses others with continued malignity.—

Against such cruelties
With inward consolations recompens'd;
And oft supported so, as shall amaze
Their proudest *persecutors*. *Milton.*

He may become a cruel *persecutor*. *Swift.*

PARSEES, the descendants of a colony of ancient Persians, who took refuge at Bombay, Surat, and in the vicinity of those cities, when their own country was conquered 1100 years ago by the Mahometan Arabs. They are a gentle, quiet, and industrious people, loved by the Hindoos, and living in great harmony among themselves. The consequence is, that they multiply exceedingly, whilst their countrymen in the province of Guzerat are visibly diminishing under the yoke of the Mahometan Persians.

PERSEPOLIS, formerly the capital of Persia, stood in N. Lat. 30. 30. E. Long. 84. now in ruins, but remarkable for the most magnificent ruins of a palace or temple that are to be found throughout the world.—This city stood in one of the finest plains in Persia, being 18 or 19 leagues in length, and in some places two, in some four, and in others six leagues in breadth. It is watered by the great river Araxes, now Bendemir, and a multitude of rivulets besides. Within the limits of this plain, there were between 1000 and 1500 villages, without reckoning those in the mountains, all adorned with pleasant gardens, and shaded with shady trees. They are now the shelter of beasts and birds of prey.

PERSES, the last king of Macedonia. See MACEDON, § 18, and 19.

PERSEVERANCE. *n. s.* [*perseverance*, Fr. *perseverantia*, Lat. This word was once improperly accented on the second syllable.] 1. Persistence in any design or attempt; steadiness in measures; constancy in progress. It is applied as well to good and ill.—

The king-becoming graces,
Bounty, *perseverance*, mercy, lowliness. *Shak.*

Perseverance keeps honour bright. *Shak.*

—They hate repentance more than *perseverance* in a fault. *King Charles.*—Wait the seasons of providence with patience and *perseverance*. *L'Estr.*—Patience and *perseverance* overcome the greatest difficulties. *Clarissa.*—

And *perseverance* with his batter'd shield.
Brooke.

2. Continuance in a state of grace.—We place the grace of God in the throne, to rule and reign in the whole work of conversion, *perseverance*, and salvation. *Hammond.*

(2.) PERSEVERANCE, in theology, a continuance in a state of grace to a state of glory. About this subject there has been much controversy in the Christian church. All divines, except Unitarians, admit, that no man can ever be in a state of grace without the co-operation of the spirit of God; but the Calvinists and Arminians differ widely as to the nature of this co-operation. The former, at least such as call themselves the *true disciples of Calvin*, believe, that those who are once under the influence of divine grace can never fall totally from it, or die in mortal sin. The Arminians, on the other hand, contend, that the whole of this life is a state of probation; that without the grace of God we can do nothing that is good; that the Holy Spirit assists, but does not overpower our natural faculties; and that a man, at any period of his life, may resist, grieve, and even quench the spirit. See THEOLOGY.

* PERSEVERANT. *adj.* [*perseverant*, Fr. *perseverans*, Lat.] Persisting; constant. *Ainsworth.*

* *To* PERSEVERE. *v. n.* [*persevero*, Lat. *perseverer*, Fr. This word was anciently accented less properly on the second syllable.] To persist in an attempt; not to give over; not to quit the design.—

But in her pride she doth *persevere* still.
Spenser.

Thrice happy, if they know
Their happiness, and *persevere* upright! *Milton.*

Thus beginning, thus we *persevere*. *Dryden.*—To *persevere* in any evil course, makes you unhappy in this life. *Wake.*

* PERSEVERINGLY. *adv.* [from *persevere*.] With perseverance.

(1.) PERSEUS, in fabulous history, the son of Jupiter by Danae, the daughter of K. Acrisius. See ACRISIUS and DANAE. Many miracles are related of this hero, by the poets. Having engaged to bring the head of Medusa to Polydectes, K. of Seriphos, who had educated him, Minerva gave him her shield, Mercury lent him his wings and caduceus, with his dagger made of diamonds, called *harpe*; and Pluto lent him his helmet, which rendered him invisible. Thus equipped, Perseus flew through the air, visited the *Graiæ*, and their sisters the GORGONS; killed MEDUSA, and brought away her head; gave birth to PEGASUS and *Chrysaor* from her blood; turned the giant Atlas into a mountain by a sight of her head; killed the sea monster that was going to devour Andromeda; married that princess; changed her uncle Phineus and his troops, who were going to carry her off from him, into stones;

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and made the ſame metamorphoſis upon Polydectes when he was going to raviſh Danae. Having afterwards killed his grandfather Acriſius accidentally, by throwing a quoit, he refuſed to ſucceed him in the throne of Argos, and exchanged it for that of Tirynthus: after which, he founded the city of Mycenæ, of which he became king, and where he and his poſterity reigned for 100 years. He flouriſhed, according to moſt chronologiſts, in 1348 B. C. but, according to Sir Iſaac Newton, only in 1028.

(2.) PERSEUS, in aſtronomy. See ASTRONOMY, § 548.

(3.) PERSEUS. See MACEDON, § 18, 19. This unfortunate monarch left a daughter and 2 ſons, Philip and Alexander. The latter was bred a carpenter, but having acquired ſome learning, became ſecretary to the Senate of Rome.

PERSHORE, a town of Worceſterſhire, on the Avon, 9 miles ESE. of Worceſter, and 102 WNW. of London. It has 300 houſes, and markets on Tueſ. and Sat. Lon. 1. 44. W. Lat. 52. 4. N.

(1.) PERSIA, a moſt ancient and celebrated empire of Aſia, extending in length from the mouth of the Araxes to that of the Indus, about 1840 miles, and in breadth from the Oxus, to the Perſian gulph, about 1080. It is bounded on the N. by the Caſpian Sea, the Oxus, and mount Caucaſus; on the E. by the Indus and the dominions of the Great Mogul; on the S. by the Perſian gulph and the Indian ocean; and on the W. by the dominions of the Grand Signior. We learn from Sir William Jones, that Perſia is the name of only one province of this extenſive empire, which by the preſent natives, and all the learned *Muſſulmans* who reſide in the Britiſh territories in India, is called *Irân*. It has been a practice common in all ages to denominate the whole of a country from that part of it with which we are beſt acquainted; and hence have the Europeans agreed to call Irân by the name of that province of which Shirauz is the capital: See SHIRAUZ. The ſame learned writer is confident that Irân, or Perſia in its largeſt extent, comprehended within its outline the lower Aſia, which, ſays he, was unqueſtionably a part of the *Perſian*, if not of the old Aſſyrian empire.

(2.) PERSIA, ANCIENT NAMES AND FIRST SETTLEMENT OF. The moſt ancient name, however, of this country, was that of *Elam*, or, as ſome write it, *Ælam*, from Elam the ſon of Shem, from whom its firſt inhabitants are deſcended. Herodotus calls its inhabitants *Cephenes*; and in very ancient times the people are ſaid to have called themſelves *Artæi*, and the country where they dwelt *Artæa*. In the books of Daniel, Eſdras, &c. it is called by the names of *Pars*, *Pharas*, or *Fars*, whence the modern name of *Perſia*; but whence thoſe names have been derived, is now uncertain. That Perſia was originally peopled by Elam the ſon of Shem, has been very generally admitted; but the ancient hiſtory of this diſtinguiſhed empire is very little known. The firſt *Perſian* emperor of whom any thing is known with tolerable accuracy, was the great CYRUS, although it is evident that a powerful monarchy had ſubſiſted in Irân for ages before the acceſſion of that hero; that this monarchy was called the *Mahébédian* dynaſty; and that it was in fact the oldeſt monarchy in the world.

(3.) PERSIA, CLIMATE AND SEASONS OF. The air and climate of this country, conſidering the great extent thereof, cannot but be very different, according to the ſituation of its ſeveral parts; ſome being frozen with cold, whilſt others are burnt with heat at the ſame time of the year. The air, wherever it is cold, is dry; but where it is extremely hot, it is ſometimes moiſt. All along the coaſt of the Perſian Gulph, from W. to E. to the mouth of the Indus, the heat for four months is ſo exceſſive, that even the natives, unable to bear it, are forced to quit their houſes, and retire to the mountains; ſo that ſuch as travel in theſe parts, at that ſeaſon, find none in the villages but wretched poor creatures, left there to watch the effects of the rich, at the expence of their own health. The extreme heat of the ſ as it is inſupportable, ſo it makes it prodigiou unwholeſome; ſtrangers frequently falling ſi there, and ſeldom eſcaping. The eaſtern provi ces of Perſia, from the Indus to the borders Tartary, are ſubject to great heats, though n quite ſo unwholeſome as on the coaſts of the I dian Ocean and the Perſian Gulph; but in th northern provinces, on the coaſt of the Caſpi Sea, the heat is full as great, and, being attende with moiſture, as unwholeſome as on the co before mentioned. From October to May, the is no country in the world more pleaſant th this; but the people carry indelible marks of t malign influence of their ſummers, looking all a faint yellow, and having neither ſtreng nor ſpirits; though, about the end of April, they bandon their houſes, and retire to the mountai which are 25 or 30 leagues from the ſea. this moiſtneſs in the air is only in theſe parts; reſt of Perſia enjoys a dry air, the ſky being fectly ſerene, and hardly ſo much as a cloud to fly therein. Though it ſeldom rains, the admits of mitigation; for in the night, when is not a cloud to be ſeen, and the ſky is ſo cl and the ſtars afford a ſtrong light, a briſk w ſprings up, which laſts until within an hour the morning, and gives a refreſhing coolneſs the air. The ſeaſons in general, and particula in the middle of this kingdom, happen thus: winter, beginning in November, and laſting u March, is very ſharp and rude, attended w froſt and ſnow; which laſt deſcends in great flak on the mountains, but never in the plains. T climate of Shirauz, the capital of Perſia Prop is repreſented by a traveller who lately viſited as one of the moſt agreeable in the world, the extremes of heat and cold being ſeldom felt. SHIRAUZ. The great dryneſs of the air exce Perſia from thunder and earthquakes. In ſpring, indeed, there ſometimes falls hail; as the harveſt is then pretty far advanced, it d a great deal of miſchief. The rainbow is ſeld ſeen in this country, becauſe there riſe not pours enough to form it; but in the night th are ſeen rays of light ſhooting through the firm ment, and followed as it were by a train of ſmo The winds, however briſk, ſeldom ſwell i ſtorms or tempeſts; but they are ſometimes p ſonous and infectious on the ſhores of the Gulp

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Mr Tavernier says, that at Gombroon people often find themselves struck by a south wind, in such a manner that they cry, *I burn!* and immediately fall down dead. M. Le Brun tells us, that he was assured while he was there, that the weather was sometimes so excessively hot as to melt the seals of letters. At this time the people go in their baths, and are continually sprinkled with cold water; and some even lie several hours naked in the water. Among the inconveniences consequent from this malign disposition of the air, one of the most terrible is the engendering, in the arms and legs a kind of long small worms, which cannot be extracted without great danger of breaking them; upon which a mortification ensues.

(4.) PERSIA, GOVERNMENT OF. Persia is an absolute monarchy, the lives and estates of the people being entirely at the disposal of their prince. The king has no council established, but is advised by such ministers as are most in favour; and the resolutions taken among the women of the harem frequently defeat the best laid designs. The crown is hereditary, excluding only the females. The sons of a daughter are allowed to inherit. The laws of Persia exclude the blind from the throne; which is the reason that the reigning prince usually orders the eyes of all the males of the royal family, of whom he has any jealousy, to be put out. The king has generally a great number of wives, which it would be death for any one, besides the eunuchs, who have the superintendance of them, to look at, or even meet by accident; wherefore, when he travels, notice is given to all men to quit the road, nay their very houses, and to retire to a great distance. The prime minister is called *the amaet doulet*, which signifies the director of the empire, and also *vizer azem*, or the great supporter of the empire: as he almost sustains the whole weight of the administration. This minister's chief study is to please his master, to secure to himself an ascendency over his mind, and to avoid whatever may give him any uneasiness or umbrage. With this view, he never fails to flatter him, to extol him above all the princes upon earth, and to throw a thick veil over every thing that might help to open his eyes, or discover him the weakness of the state. He takes particular care to keep the king in utter ignorance, to hide from him all unwelcome news; and to exalt immoderately every advantage he obtains over his enemies. In like manner the inferior officers and governors of provinces employ all the means in their power to secure the prime minister's favour. There is a gradation of despotism and slavery, down from the prime minister to the lowest retainer to the court, or dependent on the government. Children are sometimes in Persia required by the king to cut off the ears and nose, and even to cut the throats of their parents; and these orders cannot be objected to, without endangering their own lives. Indeed their baseness and mercenariness are such, that they will perpetrate such atrocious deeds without the least scruple, when they have a promise of possessing their posts. The prime ministers, notwithstanding the precarious footing on which they stand, sometimes continue in their employments during life. Next to the prime minister are the *nadir*, or grand master of the household; the *mehter*, or groom of the chambers, who is always a white eunuch; the *mirakbor bashe*, or master of the horse; the *mir-shakarbeggi*, or great huntsman and falconer; the *divanbeggi*, or chief justice, to whom there lies an appeal from the *deroga*, or the lieutenant of police, in every town; the *vacka-nuviez*, or recorder of events, or first secretary of state; the *mustau-sh-elemenaleck*, or master of the accounts and finances of the kingdom; the *numes-humbashes*, or the king's chief physicians; the *shickada-shabshe*, or inspector of the palace, and regulator of rank at court; and the KHANS, or governors of provinces, under whom are other governors, called *soltans*, appointed also by the king. Civil matters are all determined by the cazi, and ecclesiastical ones (particularly divorces) by the *sheickel-sellcum*, or head of the faith; an officer answering to the mufti among the Turks; under him are the *sheick-el, selom*, and *cadi*, who decide in all matters of religion, and make all contracts, testaments, and other public deeds, being appointed by the king in all the principal towns; and next to these are the *pichnamas*, or directors of the prayers; and the *moullahs*, or doctors of the law. Justice is carried on in Persia in a very summary manner; the sentence being always put into execution on the spot. Theft is generally punished with the loss of nose and ears; and high-way robbery, by ripping up the belly of the criminal, in which situation he is exposed upon a gibbet in one of the most public parts of the city, and there left until he expires in torment. There is no nobility in Persia, nor is any respect shown to a man on account of his family, except those who are of their great prophet or patriarchs; but every man is esteemed according to the post he possesses; and when he is dismissed, he loses his honour, and he is no longer distinguished from the vulgar.

(5.) PERSIA, HISTORY OF, FROM CYRUS'S BIRTH TO HIS DEATH. Cyrus is celebrated both by sacred and profane historians; but the latter are at no small variance concerning his birth and accession to the throne. The stories told by Herodotus, of ASTYAGES, the last king of the Medes, being alarmed by his dreams; of his endeavouring to prevent their fulfilment by marrying his daughter, Mandane, to a mean Persian; of his afterwards ordering his grandson Cyrus to be murdered; of his preservation by Harpagus, and of Astyages's barbarous revenge by murdering Harpagus's son, and serving up his mangled limbs to Harpagus at a dinner; and of Harpagus conspiring with Cyrus to dethrone his grand-father; with Astyages's depolition and imprisonment, have all very much the air of a fable. According to Xenophon, Cyrus was the son of Cambyses king of Persia, and Mandane the daughter of Astyages king of Media. He was born a year after his uncle Cyaxares, the brother of Mandane. He lived till the age of 12 with his parents in Persia, being educated after the manner of the country, and inured to fatigues and military exercises. At this age he was taken to the court of Astyages, where he resided four years; when the revolt of the Medes and Persians from the Babylonians happened.

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pened. See BABYLONIA, § 2. While Cyrus was employed in the Babyloniſh war, before he attacked the metropolis itſelf, he reduced all the nations of Aſia Minor. The moſt formidable of theſe were the Lydians, whoſe king CROESUS aſſembled a very numerous army, compoſed of all the other nations in that part of Aſia, as well as of Egyptians, Greeks, and Thracians. This vaſt army, conſiſting of 420,000 men, Cyrus routed at the battle of Thymbra, and next day took Sardis, the capital of Lydia. (See CROESUS, and LYDIA.) After the conqueſt of Sardis, Cyrus turned his arms againſt Babylon which he reduced as related under BABYLONIA, § 2. Having ſettled the civil government of the conquered kingdoms, and reſtored the Jews to their own land, (See JEWS, § 3.) Cyrus took a review of all his forces, which he found to conſiſt of 600,000 foot, 120,000 horſe, and 2000 chariots armed with ſcythes. With theſe he extended his dominion all over the nations to the confines of Ethiopia, and to the Red Sea; after which he continued to reign peaceably over his vaſt empire till his death, which happened about A. A. C. 529. In the time of Cyrus, the Perſian empire extended from the Indus to the Ægean Sea. On the N. it was bounded by the Euxine and Caſpian Seas, and on the S. by Ethiopia and Arabia. That monarch kept his reſidence for the ſeven cold months at Babylon, by reaſon of the warmth of that climate; three months in the ſpring he ſpent at Suſa, and two at Ecbatan during the heat of ſummer.

(6.) PERSIA, HISTORY OF, FROM CYRUS'S DEATH TO THAT OF CAMBYSES. Cyrus on his death-bed appointed his ſon Cambyſes to ſucceed him in the empire; and to his other ſon, Smerdis, he gave ſeveral conſiderable governments. The new monarch immediately ſet about the conqueſt of Egypt; which he accompliſhed in the manner related in the hiſtory of that country. (See EGYPT, § 10.) Having reduced Egypt, Cambyſes next reſolved to turn his arms againſt the Carthaginians, Hammonians, and Ethiopians. But he was obliged to drop the firſt of theſe enterprizes, for want of ſhips. And in attempting to croſs the deſert againſt the latter, he loſt the greater part of an immenſe army, and was obliged to return to Thebes. Through jealouſy of his brother Smerdis, he had cauſed him to be murdered, but during his abſence on this expedition, a magian, who greatly reſembled Smerdis in looks, aſſumed the name of the deceaſed prince, and raiſed a rebellion againſt Cambyſes, who was generally hated for his cruelty. Haſtening home to ſuppreſs this revolt, his ſword accidentally wounded him in the thigh, which occaſioned his death.

(7.) PERSIA, HISTORY OF, FROM CAMBYSES'S DEATH TO THAT OF SMERDIS MAGUS. Tho' Cambyſes had on his death-bed informed the nobles of the murder of his brother, and that the perſon who had uſurped the government was an impoſter, yet they gave no credit to his aſſurances. Smerdis the magian was allowed to take poſſeſſion of the throne in peace, and commenced his reign very popularly. The impoſition was however ſoon detected, the falſe Smerdis having formerly loſt his ears; the perſon who had killed the true Smerdis publicly confeſſed his crime; a confederacy of ſeven principal lords was formed againſt th uſurper, and he and his brother PATIZITHE were ſlain, after a reign of only 8 months. No were they the only ſufferers. The mob fell upo the magi, and made a general maſſacre of them the memory of which was kept up long after, b an anniverſary feſtival, called MAGOPHONIA.

(8.) PERSIA, HISTORY OF, FROM DARIUS I ACCESSION TO THAT OF XERXES. Six of t noble conſpirators having determined to chooſe king from among themſelves, by repairing horſe-back to a particular ſpot, and beſtowing t crown on him whoſe horſe firſt neighed, Dari the ſon of Hyſtaſpes governor of Suſa was put poſſeſſion of this dignity, by the ſagacity of groom. He was elected king of Perſia in the ye 522 B. C. Immediately after his acceſſion, promoted the other ſix conſpirators to the employments in the kingdom, married the daughters of Cyrus, Atoſſa and Artyſtona, mys the daughter of the true Smerdis, and dyma the daughter of Otanes, who had detec the impoſture of the magian. He then divi the whole empire into 20 ſatrapies or governme and appointed a governor over each diviſion, ord ing them to pay him an annual tribute. Un Darius, the building of the temple of Jeruſal which had been obſtructed by Cambyſes and Sm dis, went on ſucceſsfully, and the Jewiſh was entirely reſtored. The moſt remarkable Darius's other tranſactions were his expedition gainſt Babylon; againſt Scythia, India, and Gre The expedition againſt Babylon took place A. A 517. The inhabitants of that city having laid a ſtock of proviſion for ſeveral years, and ſtra all the old people and children, and thoſe w they conſidered unneceſſary, ſhut themſelves and withſtood the ſiege of Darius and all his f for a year and 8 months, and would mo bably have ſucceeded in tiring them out Zopyrus, one of Darius's generals, having c his own noſe and ears, perſuaded them h been thus barbarouſly treated by the moo and was deſirous of revenge; ſo they intruſte him the guard of the city, which he delivere to the Perſians. Darius beat down the wa that metropolis to the height of 50 cubits: of the moſt active in the rebellion were imp the reſt pardoned. After the reduction of B lon, Darius undertook a Scythian expedition, d ted againſt thoſe nations which lie betwee Danube and the Tanais. In this however he not ſo fortunate. He led 700,000 men into thia, but the inhabitants, too wiſe to oppo vaſt an army in the field, retreated before waſting the country as they fled. Seeing the minent danger his army were in of periſhin want, he began his retreat which he effected the loſs of the old and ſick, whom he left b him. India however felt and ſubmitted t prowеſs of his army. (See INDIA, § 3.) H duced that large country, and made it a pro of the Perſian empire, drawing from them annual tribute of 360 talents of gold. Fo account of his expedition to Greece, ſee TICA, § 11. The ill ſucceſs which attended here, however, was ſo far from making him the enterpriſe, that it only made him the

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intent on reducing the Grecians; and he resolved to head his army in person, having attributed his former bad success to the inexperience of his generals. But while he was making the necessary preparations for this purpose, he received intelligence that the Egyptians had revolted, so that he was obliged to make preparations for reducing them also; and before this could be done, the king died, after having reigned 36 years, leaving the throne to his son Xerxes.

(9.) PERSIA, HISTORY OF, FROM XERXES'S ACCESSION TO HIS DEATH. This prince ascended the throne of Persia in the year 485 B. C.; and his first enterprise was to reduce the Egyptians; which he effectually did, bringing them into a more state of slavery than they ever had experienced before. After this he resolved on an expedition into Greece; the unfortunate event of which is related under ATTICA, § 11. By his misfortunes in the Grecian expedition, he became so dispirited, that he thenceforth abandoned all thoughts of war and conquests; but growing tyrannical, and oppressing his subjects, he was murdered in his bed, A. A. C. 464. and 21st of his reign; and was succeeded by his third son Artaxerxes, surnamed *Longimanus* on account of the length of his arms.

(10.) PERSIA, HISTORY OF, TILL ARTAXERXES'S DEATH. This prince is named *Ahasuerus* in Scripture, and is the same who married Esther, and during the whole of his reign showed the Jews kindness to the Jewish nation. In the beginning of his reign he was opposed by Hystaspes the second son of Xerxes, whom, however, he overcame, though not without considerable difficulty. After this he settled the affairs of government, and reformed many abuses which had crept in now and then, being fully established on the throne, appointed feasts and rejoicings to be made for 180 days in the city of Susa; at one of which he resolved to divorce his queen for disobedience; and afterwards married Esther, as recorded Est. ii. 17. In the 5th year of his reign, the Egyptians revolted anew, and, being assisted by the Athenians, held out for six years; but were again obliged to submit, and continued in subjection during the whole of his reign. Nothing else remarkable happened during the life of Artaxerxes Longimanus, who died in the 41st year of his reign; and was succeeded by Xerxes II. the only child he had by his queen, though by his concubines he had 17.

(11.) PERSIA, HISTORY OF, TILL DARIUS II'S DEATH. Xerxes II. having drunk immoderately at an entertainment immediately after his accession, retired to a chamber to refresh himself with sleep; where he was murdered by Sogdianus, the son of Artaxerxes by one of his concubines, after he had reigned 45 days. Sogdianus was scarce seated on the throne when he put to death Bagorazus, the most faithful of all his father's eunuchs; by which, and the murder of his sovereign, he became generally odious. He next sent for his brother Ochus, intending to murder him; but Ochus, having collected a great army under pretence of revenging the death of Xerxes, and being joined by many of the nobles and governors of provinces, Sogdianus proposed an accommodation with Ochus; who no sooner had him in his power than he caused him to be suffocated among ashes; a punishment invented on purpose for him. Ochus, being settled on the throne, changed his name to Darius; and is by historians commonly called *Darius Nothus*, or *The Bastard*. But Arsites, another of the brothers, seeing how Sogdianus had got the better of Xerxes, and Ochus of him, attempted to treat Ochus in the same manner. He was not, however, so successful; for, being defeated in an engagement, he surrendered, but was immediately put to death by suffocation in ashes. Several other persons were executed: but these severities did not procure him repose, for his whole reign was disturbed with violent commotions in various parts of the empire. One of the most dangerous was raised by Pisuthnes governor of Lydia; but he, being deserted by his Greek mercenaries, was overcome, and put to death. His son Amorgas continued to infest the maritime provinces of Asia Minor for two years; till he also was taken and put to death by Tissaphernes, governor of Lydia. Other insurrections quickly followed; particularly that of the Egyptians, who could not be reduced. Before his death Darius invested Cyrus his youngest son with the supreme government of all Asia Minor. This was done through the persuasion of his mother PARYSATIS, who had an absolute sway over her husband; and she procured this command for him, that he might thereby be enabled to contend for the kingdom after his father's death. He died A. A. C. 405. and was succeeded by his son Artaxerxes, by the Greeks surnamed *Mnemon*, on account of his extraordinary memory.

(12.) PERSIA, HISTORY OF, TILL THE DEATH OF ARTAXERXES II. The most remarkable transaction during the reign of this prince was the revolt of his brother Cyrus. He began with gaining over the cities under Tissaphernes; which quickly produced a war with that governor. Cyrus then began to assemble troops, which he pretended were designed only against Tissaphernes. As he had given great assistance to the Spartans in their wars against the Athenians, he now demanded assistance from them; which they very readily granted. Cyrus, having thus collected an army of 13,000 Greek mercenaries and 100,000 regular troops of other nations, set out from Sardis, towards Upper Asia. Having arrived at Cunaxa in Babylon, Cyrus found his brother with 900,000 men ready to engage him. Clearchus, the commander of the Peloponnesian troops, advised Cyrus not to charge in person, but to remain in the rear of the Greek battalions; but he replied, that he should thus render himself unworthy of the crown for which he was fighting. As the king's army drew near, the Greeks fell upon them with such fury, that they routed the wing opposite to them almost at the first onset; upon which Cyrus was with loud shouts proclaimed king by those next to him. But he, perceiving that Artaxerxes was wheeling about to attack him in flank, advanced against him with 600 chosen horse, killed Artagases captain of the king's guards with his own hand, and put the whole body to flight. In this encounter, discovering his brother, he spurred on his horse, and, coming up

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up to him, engaged him with great fury. Cyrus killed his brother's horſe, and wounded him on the ground; but he immediately mounted another horſe, when Cyrus attacked him again, and gave him a ſecond wound, when the guards, perceiving the king's danger, diſcharged their arrows againſt Cyrus, who at the ſame time was pierced through by his brother's javelin. He fell dead upon the ſpot; and all the chief lords of his court were ſlain with him. In the mean time, the Greeks having defeated the enemy's left wing commanded by Tiſſaphernes, and the king's right wing having put to flight Cyrus's left, both parties imagined that they had gained the victory. But Tiſſaphernes acquainting the king that his men had been put to flight by the Greeks, he immediately rallied his troops to attack them. The Greeks under Clearchus, eaſily repulſed them, and purſued them to the foot of the neighbouring hills. As night was drawing near, they returned to their camp, but found that the greateſt part of their baggage had been plundered, and all their proviſions taken. The next morning they received the news of Cyrus's death, and the defeat of the army under him. Whereupon they ſent deputies to Ariæus, commander in chief of all the other forces of Cyrus, offering him the crown of Perſia. Ariæus rejected the offer, and acquainting them that he intended to ſet out on his return to Ionia, adviſed them to join him in the night. They followed his directions, and, under Clearchus, arrived at his camp about midnight, whence they ſet out on their return to Greece. They were at a vaſt diſtance from their own country, in the very heart of the Perſian empire, ſurrounded by a victorious and numerous army, and had no way to return again, but by forcing their way through an immenſe track of the enemy's country. But their valour and reſolution maſtered all theſe difficulties; and, in ſpite of a powerful army, which purſued and haraſſed them all the way, they made good their retreat for 2325 miles through the provinces belonging to the enemy, and got ſafe to the Greek cities on the Euxine ſea. This retreat (the longeſt that was ever made through an enemy's country) was conducted at firſt by Clearchus; but he being cut off through the treachery of Tiſſaphernes, Xenophon was choſen in his room, who at laſt brought his men ſafe into Greece. (See XENOPHON.) The war with Cyrus was ſcarce ended, when another broke out with the Spartans, on the following account. Tiſſaphernes being appointed to ſucceed Cyrus in all his power, to which was added all which he himſelf poſſeſſed formerly, began to oppreſs the Greek cities in Aſia in a moſt cruel manner. On this they ſent ambaſſadors to Sparta, deſiring aſſiſtance. The Spartans having ended their long war with the Athenians, willingly laid hold of this opportunity of breaking with the Perſians, and therefore ſent againſt them an army under the command of Thimbro, who, being ſtrengthened by the forces which returned under Xenophon, took the field againſt Tiſſaphernes. But Thimbro being recalled, Dercyllidas, a brave officer, was appointed to ſucceed him; and he carried on the war to much more advantage. Finding that Tiſſaphernes was at variance with another governor named *Pharnabazus*, he concluded a truce wit the former, and marching againſt Pharnabazu drove him quite out of Æolis, and took ſeve cities in other parts. The latter repaired to t Perſian court, complained againſt Tiſſapherne and adviſed the king to equip a powerful fle and give the command of it to Conon the Ath nian, by which he would obſtruct the paſſage further recruits from Greece; and thus ſoon p an end to the power of the Spartans in Aſia. T king accordingly ordered 500 talents for the equ ment of a fleet, and appointed Conon comma er of it. The Spartans hearing of this, ſent Ageſilaus one of their kings, and a moſt exp enced commander, into Aſia. This was d with ſuch ſecrecy, that Ageſilaus arrived at Ep ſus before the Perſians had the leaſt notice of deſigns. He took the field with 10,000 foot 4000 horſe, and falling upon the enemy, totally unprepared, carried every thing b him. Tiſſaphernes deceived him into a truc he got his troops aſſembled, but gained litt his treachery; for Ageſilaus deceived him in turn, and while Tiſſaphernes marched his tr into Caria, the Greeks invaded and plund Phrygia. After various other deceptive m nœuvres on each ſide, Ageſilaus led his troop gainſt Sardis; and Tiſſaphernes having diſpa ed a body of horſe to its relief, Ageſilaus fe pon them before the foot could come to thei ſiſtance. The Perſians were routed at the onſet; after which Ageſilaus over-ran the country, enriching his army with the ſpoils. this continued ill fortune Artaxerxes was ſo provoked againſt Tiſſaphernes, that he o him to be put to death. Tithrauſtus, who appointed to ſucceed him, ſent large preſe Ageſilaus, to bribe him to abandon his conq but finding him determined not to relinqui war, he ſent Timocrates of Rhodes into G with money to bribe the leading men in the and rekindle a war againſt the Spartans. cordingly the cities of Thebes, Argos, Co &c. entering into a confederacy, obliged the recal Ageſilaus to defend Sparta. After h parture, which happened A. A. C. 354, the tan power received a ſevere blow at Cnidos, w their fleet was entirely defeated by that of A xerxes under Conon, 50 of their ſhips being t in the engagement; after which, Conon Pharnabazus being maſters of the ſea, ſailed ro the iſlands and coaſts of Aſia, taking the c there which had been reduced by the Spart Seſtos and Abydos only held out, and reſiſted utmoſt efforts of the enemy, though they been beſieged both by ſea and land. Next Conon having aſſembled a powerful fleet, t took Pharnabazus on board, and reduced iſland of Melos, from whence he made a de on the coaſts of Lycaonia, pillaging all the time provinces, and loading his fleet with an menſe booty. After this, Conon obtained l to return to Athens with 80 ſhips and 50 tal to rebuild the walls of that city. Having a g number of hands, the work was ſoon comple and the city not only reſtored to its former ſp dor, but rendered more formidable than e The Spartans were ſoon reduced to the neceſ

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of making peace. The terms were, that all the Greek cities in Aſia ſhould be ſubject to the king of Perſia, alſo the iſlands of Cyprus and Clazomenæ; that Scyros, Lemnos, and Imbros, ſhould be restored to the Athenians, and all the cities of Greece declared free. Artaxerxes engaged to aſſiſt thoſe who accepted theſe terms, and to affiſt againſt ſuch as ſhould reject them. Artaxerxes being now diſengaged from the Grecian affairs, turned his arms againſt Evagoras king of Salamis, who was deſcended from the ancient kings of Salamine, the capital of Cyprus. His anceſtors had reigned there for many ages, but were at laſt driven out by the Perſians, who reduced the iſland to a Perſian province. Evagoras, however, being a man of an enterpriſing genius, drove out the Perſian governor and recovered Salamine. Artaxerxes attempted to drive him out by force; but Conon, by means of Cteſias chief phyſician to Artaxerxes, got all differences accommodated. But Evagoras gradually reduced under ſubjection almoſt the whole of the iſland. Some towns, however, held out againſt him, and applied to Artaxerxes for aſſiſtance; who, as ſoon as the war was at an end, bent all his force againſt Evagoras. The Athenians, notwithſtanding the favours conferred upon them by Artaxerxes, could not forbear aſſiſting their old ally in this extremity; and ſent him ten men of war under Chabrias; but the fleet, commanded by Talenus brother to Ageſilaus, falling in with them near Rhodes, ſurrounded them ſo that not one eſcaped. The Athenians ſent Chabrias with a fleet and body of land forces; with which he eaſily reduced the whole iſland. But the Perſians being ſoon after obliged, by a treaty concluded with the Perſians, to recal Chabrias, they attack d the iſland with 300,000 men, and 300 ſhips. Evagoras applied to the Egyptians, Arabians, Tyrians, and other nations from whom he received ſupplies both of men and money; and fitted out a fleet, with which he ventured an engagement with that of the Perſians. But being defeated, and obliged to ſhut himſelf up in Salamine, he was cloſely beſieged, and at laſt was obliged to capitulate, and reſign the whole iſland except Salamine, which he left as a king tributary to Artaxerxes. The Cyprian war being ended, Artaxerxes turned his arms againſt the Cadufians, whoſe country lay between the Euxine and Caſpian ſeas; but was obliged to abandon the project, after having loſt a great number of troops and all his horſes. In his retreat this expedition, which happened immediately after the Cadufian war, he was attended with better ſucceſs; owing to the bad conduct of Tiribazus. This commander ſent an ambaſſador to Athens, demanding Iphicrates, the beſt general of his time, to command the Greek mercenaries in the Perſian ſervice. This the Athenians complied with; and Iphicrates having muſtered the troops, ſo exerciſed them in all the arts of war, that they became famous among the Greeks under the name of *Iphicrateſian ſoldiers*. The Perſians were ſo ſlow in their preparations, that two whole years elapſed before they were ready to take the field. Artaxerxes, that he might draw the more mercenaries out of Greece, ſent ambaſſadors to the different ſtates in it, enjoining them to live at peace with each other, on the terms of the treaty lately concluded. All things being ready for the expedition, the troops were muſtered at the city then called *Ace*, and ſince called PTOLEMAIS; where they amounted to 200,000 Perſians under Pharnabazus, and 20,000 Greeks led by Iphicrates. The fleet conſiſted of 300 galleys, beſides a vaſt number of other veſſels which followed with proviſions. The fleet and army began to move at the ſame time; and ſeparated as little as poſſible. Having made a deſcent at one of the mouths of the Nile, they took a fortreſs, and put all the Egyptians in it to the ſword. Iphicrates then propoſed embarking the troops without loſs of time, and attacking Memphis, the capital, which would have rendered it eaſy to reduce the whole country; but Pharnabazus would undertake nothing before the reſt of the forces were come up: neither would he permit Iphicrates to attack the place with the Greek mercenaries only, from a mean jealouſy of the honour which he might acquire; and thus the Egyptians recovered courage to put themſelves in ſuch a poſture of defence, that they could not be attacked with any probability of ſucceſs; and the Nile overflowing its banks, obliged them to return to Phœnice. The expedition was again undertaken 12 years after, but without ſucceſs. The laſt years of Artaxerxes were greatly diſturbed by diſſenſions in his family; and he died in the 94th year of his age and 40th of his reign.

(13.) PERSIA, HISTORY OF, TILL THE DEATH OF ARTAXERXES III. He was ſucceeded by one of his ſons named ARTAXERXES OCHUS, who behaved with ſuch cruelty, that almoſt one half of his dominions revolted as ſoon as he came to the throne. But, by the diſſenſions of the rebels among themſelves, all of them were reduced one after another; and the Sidonians, finding themſelves betrayed, burnt themſelves to the number of 40,000, together with their wives and children. Artaxerxes Ochus, having quelled all the inſurgents, immediately ſet himſelf about reducing Egypt, and for this purpoſe procured a reinforcement of other 10,000 mercenaries from Greece. On this march, he loſt a great number of his men in the lake SERBONIS. When the S. wind blows, this lake is covered with ſand, in ſuch a manner that no one can diſtinguiſh it from the firm land. Several parties of Ochus's army were loſt in it for want of proper guides; and whole armies have ſometimes periſhed in it. When he arrived in Egypt, he detached three bodies to invade the country; each commanded by a Perſian and a Greek. The firſt was led by Lachares the Theban, and Roſaces governor of Lydia and Ionia; the 2d by Nicoſtratus the Theban and Ariſtazanes; the 3d by Mentor the Rhodian and Bagoas an eunuch. The main body of the army he kept with himſelf, and encamped near Peluſium, to watch the events of the war. The event was ſucceſsful, and Ochus having reduced the whole country, diſmantled their ſtrong holds, plundered the temples, and returned to Babylon loaded with booty; where he conferred high rewards on thoſe who

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who had diſtinguiſhed themſelves. To Mentor the Rhodian he gave 100 talents, and other preſents; appointed him governor of all the coaſts of Aſia, and committed to his care the whole management of the war which he was ſtill carrying on, and either by ſtratagem, or by force, he at laſt reduced all the provinces that had revolted. Ochus then gave his attention to nothing but his pleaſures, leaving the adminiſtration of affairs entirely to Bagoas the Eunuch, and to Mentor. Theſe two agreeing to ſhare the power between them, the former had Upper Aſia, and the latter all the reſt. Bagoas, being an Egyptian, had a great zeal for the religion of his country, and endeavoured, on the conqueſt of Egypt, to influence the king in favour of the Egyptian ceremonies; but, Ochus not only refuſed to comply, but killed the ſacred bull, the emblem of Apis, plundered the temples, and carried away their ſacred records. Bagoas in revenge poiſoned his maſter and benefactor in the 21ſt year of his reign; kept the king's body, cauſing another to be buried in its ſtead; and becauſe the king had cauſed his attendants eat the fleſh of Apis, Bagoas cut his body in pieces, and gave it ſo mangled to be devoured by cats, making handles for ſwords of his bones. He then placed Arſes the youngeſt of the deceaſed king's ſons on the throne, that he might the more eaſily preſerve the whole power to himſelf.

(14.) PERSIA, HISTORY OF, TILL THE DEATH OF DARIUS III, AND OVERTHROW OF THE EMPIRE. Arſes did not long enjoy even the ſhadow of power which Bagoas allowed him, being murdered in the 2d year of his reign by that treacherous eunuch, who now conferred the crown on Darius Codomanus, a relation of the royal family. But finding that he would not ſuffer himſelf to be guided by him in all things, the treacherous Bagoas brought him a poiſonous potion; but Darius got rid of him by his own artifice, cauſing him to drink the poiſon which he brought. This eſtabliſhed Darius in the throne as far as ſecurity from internal enemies could do ſo; but in a very little time his dominions were invaded, and ſoon after conquered by Alexander the Great. The particulars of that heroe's conqueſts are related under MACEDON, § 12, 13; we ſhall therefore here only take notice of the fate of Darius himſelf, with which the Perſian empire concluded for many ages. After the battle of Arbela, Alexander took and plundered Perſepolis, whence he marched into Media, in purſuit of Darius, who had fled to Ecbatan the capital. This prince had ſtill an army of 30,000 foot, among whom were 4000 Greeks, who continued faithful to the laſt. Beſides theſe, he had 4000 ſlingers and 3000 horſe, moſt of them Bactrians, commanded by Beſſus. When Darius heard that Alexander was marched to Ecbatan, he retired into Bactria, with a deſign to raiſe another army; but ſoon after he determined to venture a battle with the forces he ſtill had left. On this Beſſus governor of Bactria, and Nabarzanes a Perſian lord, formed a conſpiracy to ſeize his perſon, and, if Alexander purſued them, to gain his friendſhip by betraying their maſter into his hands; but if they eſcaped, their deſign was to murder him, and uſurp the crown. The troops were eaſily gained over; but Darius himſelf, when informed of their proceedings, and ſolicited to truſt his perſon among the Greeks, could not give credit to the report. The conſequence was, that he was in a few days ſeized by the traitors; who bound him with golden chains, and ſhutting him up in a covered car fled with him towards Bactria. The cart was covered with ſkins, and ſtrangers appointed to drive it without knowing who the priſoner was. Beſſus was proclaimed commander in chief by the Bactrian horſe; but Artabazus and his ſon with the forces they commanded, and the Greeks under one *Patron*, retired from the army and Beſſus, and marched over the mountains towards Parthiene. Alexander arriving at Ecbatan, was told that Darius had left the place five days before. He then diſpatched orders to Clitus, who had fallen ſick at Suſa, to repair, as ſoon as he recovered, to Ecbatan, and thence to follow him into Parthia with the cavalry and 6000 Macedonians, who were left in Ecbatan. Alexander himſelf with the reſt of the army purſued Darius, and the 11th day arrived at *Rhages*, having marched in that time 3300 furlongs. Moſt of thoſe who accompanied him died through fatigue; ſo much that, on his arrival at Rhages, he could ſcarce muſter 60 horſemen. Finding that he could not come up with Darius, who had paſſed the Caſpian ſtraits, he ſtaid five days at Rhages to refreſh his army and ſettle the affairs of Media. Thence he marched into Parthia, and encamped near the Caſpian ſtraits, which he paſſed next without oppoſition. He had ſcarce entered Parthia, when he was informed that Beſſus and Nabarzanes had conſpired againſt Darius, and deſigned to ſeize him. Hereupon, leaving the body of the army with Craterus, he advanced with a ſmall troop of horſe, and having marched day and night, he came on the 3d day to a village where Beſſus with his Bactrians had encamped the day before. Here he learned that Darius had been ſeized by the traitors; that Beſſus had cauſed him to be ſhut up in a covered cart, and that the whole army, except Artabazus and the Greeks, obeyed Beſſus. Alexander at laſt came in ſight of the barbarians, who were marching in great confuſion. His unexpected appearance ſtruck them, though far ſuperior in number, with ſuch terror, that they immediately fled; and becauſe Darius refuſed to follow them, Beſſus, and thoſe who were about him, diſcharged their darts at the unfortunate prince, leaving him wallowing in his blood. After this they fled different ways, and were purſued with great ſlaughter by the Macedonians. In the meantime the horſes that drew the cart in which Darius was, ſtopped, for the drivers had been killed. Beſſus, near a village about four furlongs from the highway. Thither Polyſtratus, a Macedonian following preſſed with thirſt, was directed by the inhabitants to a fountain to refreſh himſelf, and to the place where they ſtopped. As he was filling his helmet with water, he heard the groans of a dying man; and looking round him, diſcovered the cart with a team of horſes, unable to move by the many wounds they had received. When he drew near, he perceived Darius lying in the

having several darts sticking in his body. He had breath enough left to call for some water, which Polystratus brought him. Darius, after drinking, turned to the Macedonian, and with a faint voice told him, that, in the deplorable state to which he was reduced, it was no small comfort to him that his last words would not be lost: he then charged him to return his hearty thanks to Alexander for the kindness he had shown to his wife and family, and to acquaint him, that, with his last breath, he besought the gods to prosper him in all his undertakings, and make him sole monarch of the universe. He added, that it did not so much concern him as Alexander to pursue and bring to condign punishment those traitors who had treated their lawful sovereign with such cruelty, that being the common cause of all crowned heads. Then, taking Polystratus by the hand, "Give Alexander your hand, says he, as I give you mine, and carry him, in my name, the only pledge I am able to give, in this condition, of gratitude and affection." Having uttered these words, he expired in the arms of Polystratus. Alexander coming up a few minutes afterwards bewailed his death, and caused his body to be interred with the highest honours. The traitor Bessus being at last reduced to extreme difficulties, was delivered up by his own men naked and bound, into the hands of the Macedonians; which Alexander gave him to Oxyathres the brother of Darius, to suffer what punishment he should think proper. Plutarch tells us that he executed in the following manner: Several trees being by main force bent down to the ground, and one of the traitor's limbs tied to each of them, the trees, as they were suffered to return to their natural position, flew back with such violence, that each carried with it the limb that was tied to it. Thus ended the empire of the Persians, 209 years after it had been founded by Cyrus.

(15.) PERSIA, HISTORY OF, TILL THE RESTORATION OF ITS MONARCHY BY ARTAXARES. From the death of Alexander the Persian dominions became subject to Seleucus Nicator, and remained subject to him and his successors, for 125 years, when the Parthians revolted, and conquered the greatest part of them. To the Parthians they continued subject for 475 years, when the sovereignty was again restored to the Persians, as related under PARTHIA, § 13. The restorer of the Persian monarchy was Artaxerxes, or Artaxares, who was not only a private person, but of obscurious birth. However, he possessed great abilities, by which means he executed his ambitious designs. He took the pompous title of *king of kings*, and formed a design of restoring the empire to its ancient glory. He therefore gave notice to the Roman governors of the provinces bordering on his dominions, that he had a just right as the successor of Cyrus, to all the Lesser Asia; which he commanded them immediately to quit, as well as provinces on the frontiers of the ancient Persian kingdom, which were already his. The consequence of this was a war with Alexander Severus the Roman emperor. Concerning the success of this war there are very different accounts. It is certain, however, that, on account of his exploits against Artaxares, Alexander took the titles of *Parthicus* and *Persicus*; though it would seem, with no great reason, as the Persian monarch lost none of his dominions, and his successors were equally ready with himself to invade the Roman territories.

(16.) PERSIA, HISTORY OF, TILL THE SECOND OVERTHROW OF ITS EMPIRE, BY THE SARACENS. Artaxares dying after a reign of twelve or fifteen years, was succeeded by his son Sapor; a prince of great abilities both of body and mind, but fierce, haughty, untractable, and cruel. He was no sooner seated on the throne, than he began a new war with the Romans. In the beginning he was unsuccessful, being obliged, by Gordian, to withdraw from the Roman dominions, and was even invaded in his turn; but, in a short time, Gordian being murdered by Philip, the new emperor made peace with him upon terms very advantageous to the Persians. He was no sooner gone than Sapor renewed his incursions, and made such alarming progress, that the emperor Valerian, at the age of 70, marched against him in person with a numerous army. An engagement ensued, in which the Romans were defeated, and Valerian taken prisoner. Sapor pursued his advantages with such cruelty, that the people of the provinces took arms, first under Cailistus a Roman general, and then under Odenatus prince of Palmyrene. Thus they not only protected themselves from the insults of the Persians, but even gained many great victories over them, and drove Sapor with disgrace into his own dominions. In his march he is said to have made use of the bodies of his unfortunate prisoners to fill up the hollow roads, and to facilitate the passage of his carriages over such rivers as lay in his way. On his return to Persia, he was solicited by the kings of the Cadusians, Armenians, Bactrians, and other nations, to set Valerian at liberty; but to no purpose. On the contrary, he used him the worse; treated him daily with indignities, set his foot upon his neck when he mounted his horse; flayed him alive after some years confinement; and caused his skin to be tanned, which he kept as a monument of his victory over the Romans. This extreme insolence and cruelty was followed by an uninterrupted course of misfortune. Odenatus defeated him in every engagement, and even seemed ready to overthrow his empire; and after him Aurelian took ample vengeance for the captivity of Valerian. Sapor died A. D. 273, after having reigned 31 years; and was succeeded by his son Hormisdas, and he by Varanes I. The former reigned a year and ten days, and the latter 3 years; after which he left the crown to Varanes II. who seems to have been so much awed by the power of the Romans, that he durst undertake nothing. The rest of the Persian history to the overthrow of the empire by the Saracens, affords nothing but an account of their continued invasions of the Roman empire, which more properly belongs to the history of ROME and CONSTANTINOPLE, and to which we therefore refer. The last of the Persian monarchs, of the line of Artaxares, was Isdigertes, or Jezdegerd, who was cotemporary with Omar, the second caliph after Mahomet. He was scarce

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feated on the throne, when he found himſelf attacked by a powerful army of Saracens under the command of one Sad, who invaded the country through Chaldea. The Perſian general took all imaginable pains to haraſs the Arabs on their march; and having an army ſuperior to them in numbers, employed them continually in ſkirmiſhes. But Sad, perceiving that this lingering war would deſtroy his army, determined to force the enemy to a general engagement; and which he at laſt accompliſhed with complete ſucceſs, after a battle that laſted 3 days and 3 nights. And thus the capital, and the greateſt part of the dominions of Perſia, fell into the hands of the Arabs; along with the king's treaſures, which were immenſe; A. D. 643.

(17.) PERSIA, HISTORY OF, TO ITS CONQUEST BY JENGHIZ KHAN. After this battle, Jezdegerd retired into Choraſſan, where he reigned as king, over it and two other provinces, viz. *Kerman* and *Segeſtan*. But after he had reigned in this limited manner for 19 years, the governor of Merou betrayed it to the Turks. Jezdegerd immediately marched againſt the rebels and their allies, but was defeated; and having with much difficulty reached the river, while the ferryman was higgling about his fare of 5 farthings, a party of the rebel horſe came up, and knowing Jezdegerd, killed him in 652. Jezdegerd left behind him a ſon named *Firouz*, and a daughter named *Dara*. The latter eſpouſed Boſtenay, whom the rabbinical writers entitle the *head of the captivity*; and who, in fact, was the prince of the Jews ſettled in Chaldea. As for Firouz, he ſtill preſerved a little principality; and when he died, left a daughter named *Mah Afrid*, who married Walid the ſon of the caliph Abdalmalek; by whom ſhe had a ſon named *Yezid*, who became caliph, and ſovereign of Perſia; and who claiming the title derived from his mother, conſtantly ſtyled himſelf *the ſon of Khoſrou king of Perſia, the deſcendant of caliph Maroan, and among whoſe anceſtors on the ſide of the mother were the Roman emperor and the khacan*. Perſia continued to be ſubject to the Arabs till the decline of the Saracen empire; being governed by deputies, entitled *Sultans*, under the Grand Khalifs. In proceſs of time, the ſultans of Perſia, Babylon, &c. quarrelled among themſelves, and occaſioned ſeveral revolutions, and fluctuations of power, the conſequence of which was the coming in of the Turks. TANGROLOPIX, their leader, conquered the ſultan of Perſia, in 1030, and aſſumed the government. He was ſucceeded by a race of Turkiſh princes for about 100 years; when the Tartars invaded Perſia, drove out the Turks, and a new dynaſty of Tartarian princes ſucceeded: after which it was ſeized by various uſurpers, till the time of Jenghiz Khan, who conquered it, with almoſt all the reſt of Aſia.

(18.) PERSIA, HISTORY OF, TO ITS CONQUEST BY TAMERLANE. After the death of Jenghiz Khan, which happened in 1227, Perſia, and the neighbouring countries, were governed by officers appointed by his ſucceſſors, who reigned at Kerakorom, in the eaſtern parts of Tartary, till 1253, when it became once more the ſeat of a mighty empire under *Haalen*, or *Hulaku* the Mogul, who, in 1256, aboliſhed the khalifat, by taking Bagdad. (See BAGDAD, § 5.) After the death of Hulaku, his ſon Abaka ſucceeded to his extenſive dominions; who, in the very beginning of his reign, was invaded by Barkan Khan, of the race of Jagatay the ſon of Jenghiz Khan, from Great Bukharia, with an army of 300,000 men; but, happily for Abaka, Barkan died before the armies came to an engagement, upon which the invaders returned to Tartary. In 1264, Armenia and Anatolia were ravaged by the Mamelukes from Egypt, but they were obliged to fly from Abaka; who thus ſecured to be eſtabliſhed in an empire almoſt as extenſive as that of the ancient Perſian kings. But in 1268 his dominions were invaded by Borak Khan another deſcendant of Jagatay, with an army of 100,000 men. He quickly reduced the provinces of Choraſſan, and in 1269 advanced as far as Aderbijan, where Abaka had the bulk of his forces. A bloody battle enſued; in which Abaka was victorious, and Borak obliged to fly into Tartary with the loſs of all his baggage and great part of his army. Abaka died in 1282, after a reign of 17 years, and was ſucceeded by his brother Ahmed Khan. He was the firſt of the family of Jenghiz Khan who embraced Mahometaniſm; but neither he nor his ſucceſſors appear to have been much verſed in the arts of government; for the Perſian hiſtory, from this period, becomes only an account of inſurrections, murders, rebellions, and poiſonings, till the year 1337, when, upon the death of *Abuſaid*, it ſplit to pieces, and was poſſeſſed by a great number of petty princes; among whom were at perpetual war with each other, till the time of Timur Beg, or Tamerlane, who once more reduced them all under one juriſdiction about A. D. 1400.

(19.) PERSIA, HISTORY OF, TO ITS CONQUEST BY THE SHEYK, ISMAEL SOPHI. After the death of Tamerlane, Perſia continued to be governed by his ſon Shah RUKH, or *Mirza*, a wiſe and valiant prince: but it did not remain in Tamerlane's family above 6 ſhort reigns; for after continual diſſenſions among themſelves, the laſt of them was defeated and ſlain in 1472, by USUM CASSAN, an Armenian prince, who founded the Armenian dynaſty. There were five princes of this line; after which it fell into confuſion, being held by a great number of petty tyrants, till the beginning of the 16th century, when it was conquered by Sha ismael Safi, Sofi or Sophi; whoſe father was Sheyk Hayder, who was the 19th in a direct line from Ali the ſon-in-law of Mahomet. When Tamerlane returned from the defeat of Bajazet the Turkiſh ſultan, he carried with him a great number of captives out of Karamania and Anatolia, intending to put them to death; and with this intent he entered Ardebil, a city of Arderbijan, 25 miles from Taurus, where he continued for ſome days. At this time lived in that city the Sheykh Sefi, reputed by the inhabitants to be a ſaint; and, as ſuch, much reverenced by them. From the fame of his ſanctity, Tamerlane paid him frequent viſits; and when he was about to depart, promiſed to grant whatever favour he ſhould aſk. Sefi requeſted that he would ſpare the lives of his captives. Tamerlane granted his requeſt, upon which the Sheykh furniſhed them with clothes and other neceſſaries, and ſent them home to their reſpective

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countries. The people were ſo much affected with this extraordinary inſtance of virtue, that they repaired in great numbers to Seſi, bringing with them conſiderable preſents. Thus the deſcendants of the Sheykh made a conſpicuous figure till 1486, when they were all deſtroyed by the Turkmans except Iſmael, who fled to Ghilan, where he lived for ſome time under the protection of the king of that country. There was at that time, among the Mahometans, a vaſt number of people diſperſed over Aſia; and among theſe a party who followed Hayder the father of Iſmael. Iſmael, finding that Perſia was all in confuſion, and hearing that there was a great number of the Hayderian ſect in Karamania, removed thither, and collected many of his party, all devoted to the intereſt of his family; by whoſe aid he conquered Shirwan. After this he purſued his conqueſts; and as his antagoniſts never united to oppoſe him, had conquered the greateſt part of Perſia, and reduced the city of Bagdad in 1510. But in 1511, he received a great defeat from Selim I, who took Tauris; and would probably have cruſhed the empire of Ismael Sophi in its infancy, had he not thought the conqueſt of Egypt more important.

(20.) PERSIA, HISTORY OF, TO THE DEATH OF SHAH ABBAS THE GREAT. Iſmael died in 1523, leaving the crown to his eldeſt ſon Thamaſp I, who was a man of very limited abilities, and was therefore invaded by the Turks on his acceſſion to the throne. However, they were obliged to retire by an inundation, which overflowed their camp. Thamaſp, however, reduced Georgia to the obedience of the Perſian empire, which had previouſly been divided among a number of petty princes. The reigns of the ſucceeding princes afford nothing remarkable till the time of Shah Abbas I, ſurnamed the *Great*. He aſcended the throne in 1584; and began with declaring war againſt the Tartars, who had ſeized the fineſt part of Choraſſan. Having raiſed a powerful army, he entered that province, where he was met by Abdulla Khan, the chief of the Uſbeck Tartars, whom he attacked and defeated, and forced to abandon Choraſſan. Here he continued 3 years; then leaving Choraſſan, fixed the ſeat of government at ISPAHAN, where it has continued ever ſince. His next expedition was againſt the Turks, from whom he took the city of TAURIS, after defeating the garriſon; on which moſt of the other adjacent places ſubmitted. One city only, called Erivan, being very ſtrongly ſituated, reſiſted all the efforts of Abbas; but was at laſt taken by the aſſiſtance of the Curds, whom he gained over by promiſing to ſhare the plunder with them. But inſtead of this he invited their chiefs to dine with him; and having brought them to a tent, the entrance to which had ſeveral turnings, he ſtationed there inſide two executioners, who cut off the heads of the gueſts as ſoon as they entered. After this barbarous piece of treachery, Abbas conſiderably enlarged his dominions, and repelled two dangerous invaſions of the Turks. He attempted alſo to promote commerce, and civilize his ſubjects; but ſtained all his great actions by his abominable cruelties. He took the Iſle of Ormus from the Portugueſe, who had kept it ſince 1507, by the aſſiſtance of ſome Engliſh ſhips in 1622; and died ſix years after, aged 70.

(21.) PERSIA, HISTORY OF, TO THE DEATH OF SHAH NADIR. The princes, who ſucceeded Abbas, were remarkable only for their cruelties and debaucheries, which occaſioned a revolution in 1716, when Shah Huſſein was dethroned by the AFGHANS, or *Pattans*; (ſee PATTANS;) who being oppreſſed by the miniſters, revolted under the conduct of one Mereweis. The princes of the Afghan race enjoyed the ſovereignty only 16 years, when Aſhraff the reigning ſhah was dethroned by one of his officers. On this Thamaſp, otherwiſe called THAMAS, the only ſurvivor of the family of Abbas, aſſembling an army, invited into his ſervice Nadir Khan, who had obtained great reputation for his valour and conduct. No ſooner had Nadir Khan got the command of the Perſian army, than he attacked and defeated the uſurper Eſriff, put him to death, and recovered all the places the Turks and Ruſſians had taken during the rebellion; and then prince Thamas ſeemed to be eſtabliſhed on the throne: but Nadir, to whom Thamas had given the name of *Thamas Kouli*, that is, *the Slave of Thamas*, (See KOULI;) thinking his ſervices not ſufficiently rewarded, and pretending that the king had a deſign againſt his life, conſpired againſt his ſovereign, put him to death, and uſurped the throne, ſtyling himſelf *Shah Nadir*. He afterwards laid ſiege to Candahar, of which a ſon of Mereweis had poſſeſſed himſelf. While he lay at this ſiege, the court of the Great Mogul being diſtracted with factions, one of the parties invited Shah Nadir to come to their aſſiſtance, and betrayed the Mogul into his hands. He thereupon marched to Delhi, the capital of India, and ſummoned all the viceroys and governors of provinces to attend him, and bring with them all the treaſures they could raiſe; and thoſe that did not bring as much as he expected, he tortured and put to death. (See DELHI, § 2; and INDIA, § 12, 13.) Having thus amaſſed the greateſt treaſure that ever prince was maſter of, he returned to Perſia, giving the Mogul his liberty, on condition of his reſigning the provinces on the W. ſide of the Indus to Perſia. He afterwards made a conqueſt of Uſbeck Tartary, and plundered Bochara the capital. Then he marched againſt the Dagiſtan Tartars; but loſt great part of his army in their mountains, without fighting. He defeated the Turks in ſeveral engagements; but laying ſiege to Bagdad, was twice compelled to raiſe it. He proceeded to change the religion of Perſia to that of Omar, hanged up the chief prieſts, put his own ſon to death, and was guilty of ſuch cruelty, that he was at length aſſaſſinated by his own relations, in 1747.

(22.) PERSIA, HISTORY OF, TO THE DEATH OF VAKEEL KERIM KHAN. Upon the death of Shah Nadir, a conteſt enſued among his relations for the crown, which rendered Perſia a ſcene of the moſt horrible confuſion for upwards of 40 years. The reader will form ſome notion of the troubles of this unhappy country, from the following ſeries of pretenders to the throne, between the death of Nadir and the acceſſion of Kerim Khan: (from *Francklin's Obſervations*:) Their reigns, or more properly the length of time they reſpectively governed

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verned with their party, were as follows: 1. Adil Shah, 9 months. 2. Ibrahim Shah, 6 months. 3. Shah Rokh Shah, after a variety of revolutions, at length regained the city of Meschid: he was alive in 1787, and above 80 years of age, reigning in Khorasan, under the direction of his son Nussir Ullah Meerza. 4. Sulleeman Shah, and 5. Ismael Shah in about 40 days were both cut off, almost as soon as they were elevated. 6. Azad Khan Afghan, one of Kerim Khan's most formidable rivals and competitors, was subdued by him, brought prisoner to Shirauz, and died there a natural death. 7. Hussun Khan Kejar, another of Kerim Khan's competitors, was besieging Shirauz, when his army suddenly mutinied and deserted him. The mutiny was attributed to their want of pay. A party sent by Kerim Khan took him prisoner. His head was instantly cut off, and presented to Kerim Khan. His family were brought captives to Shirauz. They were well treated, and had their liberty given them soon after, under an obligation not to quit the city. 8. Ali Merdan Khan was killed by a musket-shot as he was walking on the ramparts of Mashid encouraging his men. 9. Kerim Khan Zund, by birth a Curdistan, was a favourite officer of Nadir Shah, and at the time of his death was in the southern provinces. Shirauz and other places had declared for him. After various encounters, he completely subdued all his rivals, and finally established himself as ruler of all Persia. He was in power about 30 years; the latter part of which he governed Persia under the appellation of *vakeel* or *regent*, for he never would take the title of *Shah*. He made Shirauz the chief city of his residence, in gratitude for the assistance he had received from its inhabitants and those of the southern provinces. He died in 1779, regretted by all his subjects, who esteemed and honoured him as the glory of Persia.

(23.) PERSIA, HISTORY OF, TO THE DEATH OF ZIKEA KHAN. When the death of Kerim Khan was announced in the city, much confusion arose; 22 principal officers of the army, men of high rank, took possession of the citadel, with a resolution to acknowledge Abul Futtah Khan (the eldest son of the late Vakeel) as their sovereign, and to defend him against all other pretenders; whereupon Zikea Khan, a relation of the late Vakeel by the mother's side, who was possessed of immense wealth, enlisted a great part of the army into his pay, by giving them very considerable bounties. Zikea Khan was of the tribe of Zund, (or the Lackeries,) a man remarkably proud, cruel, and unrelenting. Having assembled a large body of troops, he marched to the citadel, and laid close siege to it for 3 days; at the expiration of which, finding he could not take it by force, he had recourse to treachery. To each of the principal khans he sent a written paper, by which he swore upon the Koran, that if they would come out and submit to him, not a hair of their heads should be touched, and that they should have their effects secured to them. Upon this a consultation was held by them; and as they could not subsist many days longer, they agreed to surrender relying on Zikea's promises. Zikea, in the mean time, gave private orders for the khans to be seized, and brought separately before him as they came out of the citadel. His orders were strictly obeyed, and these deluded men were all massacred in his presence. Zikea Khan's tyranny became soon intolerable, and he was cut off by his own body-guard when Abul Futtah Khan, who was then in the camp, was proclaimed king by the unanimous voice of the troops, whom he immediately led back to Shirauz. On his arrival he was acknowledged as sovereign by all ranks of people, and took quiet possession of the government.

(24.) PERSIA, HISTORY OF, UNTIL 1788. Mahomed Sadick Khan, only brother of the late Kerim Khan, who had during that prince's life filled the high office of beglerbeg of Fars, and had been appointed guardian of his son Abul Futtah Khan, was at this period governor of Bussora, which had been taken by the Persians, previous to the vakeel's death. Upon hearing of his brother's decease, he began to form schemes for the destruction of his nephew; but as it was necessary for him to be on the spot, he withdrew the Persian garrison from Bussora, who were all devoted to his interest; evacuated the place, and marched immediately to Shirauz. The news of Sadick Khan's approach threw the inhabitants of Shirauz into the greatest consternation: their minds were variously agitated on the occasion; some, from his public character, expected he would fulfil the commands of his deceased brother; others expected he would set up for himself, which proved to be the case; for having entered Shirauz a very few days after, he caused Abul Futtah Khan to be deprived of sight and put into close confinement. After this, Sadick Khan openly assumed the government. As soon as the intelligence reached Ali Murad Khan, who was at Ispahan, that lord instantly rebelled, deeming himself to have an equal right to the government with Sadick Khan, as in fact he had. Persia was thus again involved in all the horrors of a civil war. Ali Murad Khan indeed took possession of Shirauz, assumed the government, and gave to the empire the flattering prospect of being settled under the government of one man; but this prospect was soon obscured by the power and credit acquired by Akau Mahomed Khan." On the night following Kerim Khan's death, this man found means to make his escape from Shirauz, and fled to the northward, where collecting some troops, he soon made himself master of Mazanderan and Ghilan, and was proclaimed nearly about the time that Ali Murad Khan had taken Shirauz. "It is remarkable (says our author), that from his first entering into competition for the government he has been successful in every battle which he has fought. He is an eunuch, having been made so whilst an infant, by the command of Nadir Shah, but possesses great personal bravery." Ali Murad Khan, hearing of the success of Akau Mahomed Khan, determined to go against him; but as he was previously proceeding to Ispahan to suppress a rebellion, he fell suddenly from his horse and expired. At this period Jaafar Khan, the eldest and only surviving son of Sadick Khan, was governor of Khums: he deemed this a favourable opportunity to assert his pretensions to the government, and immediately marched with what few troops he had to Ispahan: soon after his arrival he was joined by the greater part of the malcontents who

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were then in arms. In this situation he remained some time; but Akau Mahomed Khan coming down upon him with his army, he was obliged to risk his fate in a battle, and, being defeated, fled with the remains of his troops, to Shirauz. Soon after he ventured a 2d engagement with his opponent Akau Mahomed Khan; and for this purpose marched with his army towards Ispahan: the two armies met near Yezdekhast, when a battle ensued, and Akau Mahomed Khan's superior fortune again prevailing, Jaafar Khan was defeated, and retired to Shirauz, which he quitted on the 20th of June 1787, and shortly after marched his army to the northward, but returned in October without having effected any thing." Such was the state of Persia in 1788. Mr Francklin, from whose excellent *Observations on a Tour made in the years* 1786-7 these particulars are mostly extracted, says that Jaafar Khan is the most "likely, on the side of success against his opponent, to restore the country to a happy and reputable state; but it will require a long time to recover it from the miseries into which the different revolutions have thrown it:—a country, if an oriental metaphor may be allowed, once blooming as the garden of Eden, fair and flourishing to the eye;—Now, sad reverse! despoiled and leafless by the cruel ravages of war, and desolating contention."

(25.) Persia, Islands of. In his voyage from Muscat up the Persian Gulph, Mr Ives makes mention of several islands, named Kisme, Polloar, Kishm, Laderabie, Shittewar, and Bushеel. Some of these were quite barren; on others there were some trees and bushes, with little fishing towns, and a few small vessels lying along shore. The trees were thinly scattered among the hills; such was the barrenness of these islands that it was a matter of surprise how sheep and goats could subsist upon them, till it was found, that the soil produced a kind of small-leaved juicy shrubs, on which these animals feed. The Persian coast affords a most romantic prospect. Narrow point terminates in a long and low piece of land, which runs off into the gulph from the foot of the Persian hills. Between this point and the island is a channel, in which a ship of 900 tons burden might easily ride. Through all the Persian Gulph Mr Ives remarks, that the spring water on the islands is much better than that on the continent. At the island called Baharen, divers go down to the bottom of the sea, at certain known depths, and come up again with their vessels filled with fresh water. This fresh water is found in boles or little natural wells, some fathoms below the surface of the sea. The Arabs have certain marks on the island to teach them where to dive for the fresh water.

(26.) Persia, Manners of the people of. The ancient Persians are known to have been exceedingly voluptuous and effeminate. After the conquest of the empire by Alexander, the Greek discipline and martial spirit being in part communicated to them, they became much more formidable; and hence the Parthians were a match not only for the Syro-Macedonian princes, but even for the Romans. Of their manners we know little or nothing, but that to their valour and military skill they joined in a surprising degree all the luxury and dissipation of the ancient Persians. The modern Persians, like the Turks, plundering all the adjacent nations for beauties to breed by, are men of a good stature, shape, and complexion; but the Gaures, or ancient Persians, are homely, ill-shaped and clumsy, with a rough skin, and olive complexions. In some provinces not only the complexions, but the constitutions of the inhabitants, suffer greatly by the extreme heat of the climate. The Persian women are generally handsome and well shaped, but much inferior to those of Georgia and Circassia. The men wear large turbans on their heads, some of them very rich, interwoven with gold and silver; a vest, girt with a sash; and over it a loose garment, something shorter; with sandals, or slippers, on their feet. When they ride, which they do every day, they wear pliant boots of yellow leather; the furniture of their horses is extremely rich, and the stirrups generally of silver: whether on horseback or on foot, they wear a broad sword and a dagger in their sash. The dress of the women does not differ much from that of the men; only their vests are longer, and they wear stiffened caps on their heads, and their hair down. With respect to outward behaviour, says an intelligent traveller, "The Persians are certainly the Parisians of the East. Whilst a rude and insolent demeanor peculiarly marks the character of the Turkish nation towards foreigners and Christians, the behaviour of the Persians would, on the contrary, do honour to the most civilized nations: they are kind, courteous, civil and obliging. Their usual drink is water and sherbet, as in other Mahometan countries, wine being prohibited; but of all Mahometan nations, they pay the least regard to this prohibition. Many of them drink wine publicly, and almost all of them in private (excepting those who have performed the pilgrimage to Mecca, and men of religion): they are also very liable to be quarrelsome when inebriated, which is often attended with fatal consequences. They eat opium, but in much less quantities than the Turks; and indeed in every thing they say or do, eat or drink, they make a point to be as different from this nation as possible, whom they detest beyond measure; esteeming Jews and Christians superior to them, and much nearer to salvation. They are of the sect of Ali; whom they venerate to a high degree of blasphemy, and exalt even above the Almighty himself.

(27.) Persia, Marriage laws in. The most remarkable law among the Persians respects marriage. A man may divorce his wife when he chooses, without assigning any other reason for the divorce than that it is his pleasure. If he should change his mind, he may again marry her, divorce her a second time, and a third time marry her; but here this privilege stops. No man is allowed to marry the woman whom he has thrice divorced. A widow is obliged to mourn four months for her deceased husband before she can be married to another; but a concubine may form a new connection the instant that her keeper expires.

(28.) Persia, metals and other minerals in. Metals of all sorts have been found in Persia. Since the reign of Abbas the Great, iron, copper, and lead have been very common; but there are no

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no gold or silver mines open. There are silver mines in Kerman and Mezanderan, and one near Spauhawn; but they cannot be worked for want of wood. Sulphur, saltpetre, salt, and alum are found in plenty. Plains, sometimes 10 leagues in length, are covered entirely with salt, and others with sulphur or alum. In some places salt is dug out of mines. Marble, freestone, and slate, are found in great plenty about Hammadan. The marble is of 4 colours, viz. white, black, red and black, and white and black. Persia yields both black and white petroleum. Near Tauris they find azure. And there are several rocks or mines of turquoises.

(29.) PERSIA, MOUNTAINS OF. There is perhaps no country in the world which, generally speaking, is more mountainous than Persia; but many of them have neither springs nor metals, and but few are shaded with trees. Some of the chief of them are situated on the frontiers, and serve as a kind of natural ramparts, to this vast empire. Among the latter are the mountains of Caucasus and Ararat, sometimes called the *mountains of Dagbestan* which fill all the space between the Euxine and Caspian seas; those called *Taurus*, and the several branches thereof, run through Persia from Natolia to India, and fill all the middle of the country.

(30.) PERSIA, PROVINCES OF. Persia is divided into 11 provinces; viz. 1. Shirvan; 2. Adirbeitzan; 3. Ghilan; 4. Mezanderan and Taberistan; 5. Persian Irak, or ancient Parthia; 6. Chusistan: 7. Farsistan; 8. Kerman, or Keristan; 9. Mecran, or Makran; 10. Segestan; and 11. Sableston, or Zableston, and Chorasan, including Asterabat and Dagestan. (See these articles.) Candahar was anciently a province of Persia, but is now independent.

(31.) PERSIA, QUADRUPEDS, INSECTS AND BIRDS OF. The horses of Persia are the most beautiful of the East, though they are not so much esteemed as those of Arabia; so great, however, is the demand, that the finest ones will fetch from 90l. to 450l. sterling. They are higher than the English saddle horses; straight before, with a small head, legs wonderfully slender, and finely proportioned; they are gentle travellers, very light and sprightly, and are of service till they are 18 or 20 years old. The great numbers of them sold into Turkey and the Indies, though none can be carried out of the kingdom without license from the king, makes them dear. Asses are of two sorts; the first bred in Persia, heavy and doltish; the other originally of an Arabian breed, the most docile and useful creatures in the world. They are used wholly for the saddle, being very sure-footed, carrying their heads lofty, and moving gracefully. Some of them are valued at 20l. str. The mules here are also very fine; they pace well, never fall, and are seldom tired. The highest price for a mule is about 45l. Camels are also numerous in Perma, and very serviceable: they call them *kechty krouch konion*, i. e. *the ships of the land*; because the inland trade is carried on by them as the foreign is by ships. Of these camels there are two sorts, the northern and southern: the latter, which is much the smaller but swifter, will carry a load of about 700 weight, and trot as fast as a horse will gallop; the other will travel with a load of 120 or 1300 weight; both are profitable, costing little or nothing to keep. They travel without halter or reins; grazing on the road, notwithstanding their load. They are managed entirely by the voice; those who direct them singing, and the camel moving briskier, or slower, as they keep quicker or slower time. The camels shed their hair clean in spring. Camels hair is the most profitable fleece of all the tame beasts: fine stuffs are made of it; and in Europe, hats, with a mixture of a little beaver. As beef is little eaten in Persia, their oxen are generally employed in ploughing, and other labour. Hogs are nowhere bred in Persia, if we except a province or two on the borders of the Caspian Sea. Sheep and deer are very common. Of wild beasts, the number is not great because there are few forests; but where there are any, as in Hyrcania, now called TABRISTAN, great numbers of lions, bears, tigers, leopards, porcupines, wild boars, and wolves, are found. There are but few insects, owing to the dryness of the climate. But in some provinces there is a vast number of locusts, which fly about in such clouds as to darken the air. In certain places they have large black scorpions, so venomous, that such as are stung by them die in a few hours. In others they have lizards frightfully large, which are an ell long, and as thick as a large toad, their skins being as hard and tough as that of the sea-dog. The southern provinces are infested with gnats; some with long legs, some white, and as small as fleas, which make no buzzing, but sting suddenly, and smartly, like needles. Among the reptiles is a long square worm, called by the inhabitants *hazar-pey*, i. e. *thousand feet*, because its whole body is covered with feet; it runs prodigiously fast; and its bite is dangerous and even mortal if it gets into the ear. There are in Persia all the sorts of fowls we have in Europe. Wild and tame pigeons are kept in vast numbers all over the kingdom, chiefly on account of their dung. They have pigeons so taught, that, flying in one flock, they surround wild ones, and bring them with them to their masters. The partridges are the largest and finest in the world, being generally of the size of our fowls. Geese, ducks, cranes, herons, and many other sorts of water fowls, are common; nightingales are heard all the year, but chiefly in spring; martlets learn whatever words are taught them: and a bird, called *noura*, chatters incessantly, and repeats whatever it hears. Of birds of a larger size, the most remarkable is the pelican, by the Persians called *tacab*, *i. e. water-carrier*; and *misc*, *i. e. sheep*; because it is as large as one of those animals. (See PELICANUS.) There are in Persia various birds of prey. Some of their falcons are the largest and finest in the world: the Persian lords are great lovers of falconry, and the king has generally 300 of them, each of which has a person to attend

(32.) PERSIA, RIVERS OF. Except the Araxes which rises in the mountains of Armenia, and falls into the Kur or Cyrus before it reaches the Caspian Sea, there is not one navigable stream in the country. The Oxus divides Persia on the N. from Usbeck Tartary. The Indus also may be reckoned among the rivers of Persia, as the

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places W. of that river are now in poſſeſſion of that crown: It runs a courſe of more than 1000 miles, and overflows all the low grounds in April, May, and June.

(33.) PERSIA, SEAS AND FISH OF. The ſeas on the S. of Perſia are, the Gulph of Perſia or Baſora, the Gulph of Ormus, and the Indian Ocean. The only ſea on the N. is the Caſpian, or Hyrcanian ſea; which is more properly a lake, having no communication with any other ſea. Theſe ſeas together with the lakes and rivers, ſupply Perſia with plenty of fiſh. The Perſian Gulph is believed to have more fiſh than any other ſea in the world. On the coaſts of this gulph is taken a ſort of fiſh, whoſe fleſh is of a red colour, very delicious, and ſome of them weigh 200 or 300 lb. The river fiſh are chiefly barbels. Thoſe of the lakes are carps and ſhads. In the river Spauros are a great number of crabs, which crawl up the trees and live under the leaves, whence they are taken; and are eſteemed very delicious.

(34.) PERSIA, SOIL AND PRODUCE OF. The inland Perſia is in general ſtony, ſandy, barren, and atmoſphere ſo dry, that, if it be not watered, it produces nothing, not even graſs; but, where they can turn the water into their plains and valleys, it is not unfruitful. There is a great difference of fertility in the various provinces; thoſe of Media, Iberia, Hyrcania, and Bactria, are now in a great meaſure what they were formerly, and exceed moſt of the others in their productions. All along the Perſian Gulph, the ſoil is barren, cattle numerous, and every thing in a worſe condition than any where elſe. Though there is ſcarce a province in Perſia which does not produce wine, yet the wine of ſome provinces is much more eſteemed than that of others; but that of *Shiraz* is univerſally allowed to be the beſt in Aſia. The grain moſt common there is wheat, which is very fine. As for barley, rice, and millet, they only make bread of them in ſome places, as in Courdiſtan, when their wheat bread is exhauſted; but rice is the univerſal aliment; and therefore after they have ſown it as other grain, they in 3 months tranſplant it, root by root, into fields which are well watered, otherwiſe it would never attain that perfection which it acquires. It ripens exceedingly, ſo that in ſome parts they have a threefold crop in the year. The Perſian bread is white, and good; and commonly unleavened.

(35.) PERSIA, STATE OF SCIENCE IN. The Perſians excel more in poetry than any other ſort of literature; and aſtrologers are now in as great reputation as the magi were formerly. Their books are all MSS. the art of printing having not yet been introduced among them: they excel in neatneſs in writing, and have eight different hands. They write from the right hand to the left, as the Arabs do. In their ſhort hand, they uſe the letters of the alphabet; and the ſame letters, differently pointed, will have 20 different ſignifications. In ſhort, the Perſians are born with as good natural parts as any people in the Eaſt, but make a bad uſe of them; being great diſſemblers, cheats, liars, flatterers, and having a ſtrong propenſity to ſenſuouſneſs, luxury, idleneſs, and indolence; vices indeed to which the Aſiatics in general are much addicted.

(36.) PERSIA, TRADE, MANUFACTURES AND MONEY OF. The Engliſh, and other nations, trade with the Perſians by the gulph of Ormus at Gombroon, and by the way of Turkey. A trade alſo was not many years ſince opened by the Engliſh with Perſia through Ruſſia, and the Caſpian Sea; but that is now diſcontinued, having been prohibited by the court of Ruſſia, who were apprehenſive that the Engliſh would teach the Perſians to build ſhips, and diſpute the navigation of the Caſpian Sea with them. The principal commodities and manufactures of Perſia, are, raw and wrought ſilks, mohair camblets, carpets, leather; for which, and ſome others, the European merchants exchange chiefly woollen manufactures; but the trade is carried on altogether in European ſhipping, the Perſians having ſcarce any ſhips of their own, and the Ruſſians having the ſole navigation of the Caſpian Sea. There is not a more profitable trade in the world, than that which is carried on between Gombroon and Surat: and the Engliſh Eaſt India company frequently let out their ſhips to tranſport the merchandiſe of the Banians and Armenians from Perſia to India. The ſhah of Perſia is the chief merchant; and he uſually employs his Armenian ſubjects to traffic for him in every part of the world. His agents muſt have the offer of all merchandiſe, before his ſubjects are permitted to trade. It is computed that Perſia produces yearly upwards of 22,000 bales of ſilk, chiefly in the provinces of Ghilan and Mezanderan, each bale weighing 263 pounds. Vaſt quantities of Perſian ſilk uſed to be imported into Europe, eſpecially by the Dutch, Engliſh, and Ruſſians, before the civil wars began. The goods exported from Perſia to India are, tobacco, all ſorts of fruits, pickled and preſerved, eſpecially dates, marmalade, wines, diſtilled waters, horſes, Perſian feathers, and Turkey leather of all ſorts and colours, a great quantity whereof is alſo exported to Muſcovy and other European countries. The exports to Turkey are, tobacco, galls, thread, goats hair, ſtuffs, mats, box-work, and many other things. As there are no poſts in the eaſt, and trading by commiſſion, with the uſe of bills of exchange, is little known, traffic muſt proceed in a very aukward heavy manner, in compariſon of that of Europe. The moſt current money of Perſia is the abaſſees, worth about 1 s. 4 d. ſterling; they are of the fineſt ſilver. An abaſſee is worth two mahmoudes; a mahmoude, two ſhahees; and a ſhahee, ten ſingle or five double caſbeghes: theſe laſt pieces are of braſs, the others of ſilver; for gold is not current in trade. The ſhahees are not very common; but mahmoudes and caſbeghes are current everywhere. Horſes, camels, houſes, &c. are generally ſold by the toman, which is an imaginary coin, worth 200 ſhahees, or 50 abaſſees; and they uſually reckon their eſtates that way. Such a one, they ſay, is worth ſo many tomans, as we ſay pounds in England.

(37.) PERSIA, TROOPS OF, ROYAL TITLES, &c. With reſpect to the forces of Perſia, their two bodies, called the *Kortſhies* and *Goulans*, that ſerve on horſeback, are well kept and paid, and may

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may amount, the former to about 22,000, and the latter to about 18,000. The Kortſhies are deſcended from an ancient but foreign race; and the Goulans are either Georgian renegadoes or ſlaves, or the children of ſlaves of all nations. The infantry, called *Tangtchies*, are picked out from among the moſt robuſt and vigorous of the peaſants, and compoſe a body of 40,000 or 50,000. The Perſians have few fortified towns, and had no ſhips of war, till Kouli Khan built a royal navy, and among them had a man of war of 80 guns; but ſince the death of that uſurper, we hear no more of their fleet. The arms of the king of Perſia are a lion couchant, looking at the ſun as he riſes over his back. His uſual title is *Shaw* or *Patſhaw*, *the diſpoſer of kingdoms*. They add alſo to the king's titles thoſe of *ſultan*, and *chan* or *cham*, which is the title of the Tartar ſovereigns. To acts of ſtate the Perſian monarch does not ſubſcribe his name; but the grant runs in this manner, viz. *This act, or edict, is given by him whom the univerſe obeys.*

(1.) PERSIAN, *adj.* Of or belonging to Perſia.

(2.) PERSIAN GULF, or the GULF OF PERSIA, a large gulf of Aſia, between Perſia and Arabia Felix. The entrance near Ormus is not above 30 miles over; but within, it is 180 in breadth; and the length, from Ormus to the mouth of the Euphrates, is 420 miles.

(3.) PERSIAN WHEEL. See HYDROSTATICS.

PERSIANS, *n. ſ.* The people of Perſia. See PERSIA, § 26.

PERSICA, the PEACH, is by Linnæus referred to the ſame claſs and genus with AMYGDALUS; however, as they are reckoned different genera, by Tournefort and others, we ſhall here mention the 3 principal ſpecies of the Perſica, moſt remarkable for the beauty of their flowers.

1. PERSICA AFRICANA, the double-flowering Dwarf Almond.

2. PERSICA HUMILIS, the Dwarf Almond. Theſe two reach not above the height of 3 or 4 feet, though their flowers are of equal beauty with the

3. PERSICA VULGARIS, the common PEACH tree, with double flowers. It is a very great ornament in gardens, producing very large double flowers of a beautiful red or purple colour, and growing to a conſiderable ſize. Numerous other ſpecies of peach trees, with their culture, uſes, &c. are deſcribed under AMYGDALUS, § 1—9.

PERSICARIA, in botany. See POLYGONUM, N° 3.

PERSICUM MARE, or PERSICUS SINUS, } in ancient geography, a part of the ſea which the Romans called *Mare Rubrum*, and the Greeks, *Mare Erythraeum*; waſhing Arabia Felix on the E. between which and Carmania, entering into the land, it waſhes Perſis on the S. Its large mouth conſiſts of ſtraight ſides, like a neck, and then the land retiring equally a vaſt way, and the ſea ſurrounding it in a large compaſs of ſhore, there is exhibited the figure of a human head. (*Mela.*) Thophraſtus calls this bay *Sinus Arabicus*.

PERSIMON. See DIOSPYROS, N° 2. From the perſimon is made a very palatable liquor in the following manner: As ſoon as the fruit is ripe, a ſufficient quantity is gathered, which is very eaſy, as each tree is well ſtocked with them. Theſe perſimon apples are put into a dough of wheat or other flour, formed into cakes; and put into an oven, in which they continue till they are quite baked and ſufficiently dry, when they are taken out again: then, in order to brew the liquor, a pot full of water is put on the fire, and ſome of the cakes are put in: theſe become ſoft by degrees as the water grows warm, and crumble in pieces at laſt; the pot is then taken from the fire, and the water in it well ſtirred about that the cakes may mix with it: this is then poured into another veſſel, and they continue to ſtir and break as many cakes as are neceſſary for brewing: the malt is then infuſed, and they proceed as uſual with the brewing. Beer thus prepared is reckoned much preferable to other beer. They likewiſe make brandy of this fruit in the following manner: having collected a ſufficient quantity of perſimons in autumn, they are all gether put into a veſſel, where they lie for a week till they are quite ſoft: then they pour water on them, and in that ſtate they are left to ferment themſelves, without any addition. The brandy is then made in the common way, and is ſaid to be very good, eſpecially if grapes (in particular the ſweet ſort), which are wild in the woods, are mixed with the perſimon fruit. Some perſimons are ripe at the end of September, but moſt of them later, and ſome not before November or December, when the cold firſt overcomes the acrimony. The wood of this tree is very good for joiners inſtruments, ſuch as planes, handles, chiſels, &c. but if after being cut down it lies expoſed to ſunſhine and rain, it is the firſt wood which rots, and in a year's time there is nothing left but what is uſeleſs. When the perſimon tree get once into a field, they are not eaſily got rid of it again, as they ſpread greatly.

(1.) PERSIS, a Roman lady, whom St Paul ſalutes in his epiſtle to the Romans, (xvi. 12.) and calls his beloved ſiſter. She is not honoured in any church; which is ſomething ſingular.

(2.) PERSIS, in ancient geography, a province of Perſia, bounded by Media, Carmania, Suſiana and the Perſian Gulf. It is uſed by ſome authors for Perſia itſelf.

* *To* PERSIST. *v. n.* [*perſiſto*, Lat. *perſiſter* Fr.] To perſevere; to continue firm; not to give over.—An immortal ſoul ſhall *perſiſt* in being when time itſelf ſhall ceaſe. *South.*—If they *perſiſt* in pointing their batteries againſt particular perſons, no laws of war forbid the making reprisals. *Addiſon.*

* PERSISTANCE. } *n. ſ.* [from *perſiſt.*
* PERSISTENCY. } *ſiſtence* ſeems more proper.] 1. The ſtate of perſiſting; ſteadineſs; conſtancy; perſeverance in good or bad.—The mercy of God better can conſiſt with the indelible commiſſions of many ſins, than with an allowed *perſiſtance* in any one. *Government of the Tongue.* 2. Obſtinacy; obduracy; contumacy.—Think'ſt me as far in the devil's book, as thou and Falſtaff, for obduracy and *perſiſtency*. *Shakeſpeare.*

* PERSISTIVE. *adj.* [from *perſiſt.*] Steadily not receding from a purpoſe; perſevering.—

The protractive tryals of great Jove,
To find *perſiſtive* conſtancy in men. *Sh*

Pl

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PERSIUS FLACCUS, Aulus, a Latin poet in the reign of Nero, celebrated for his satires. He was born, according to some, at Volterra in Tuscany; and according to others, at Tigulia, in the gulf of Specia, in the year 34. He was educated till 12 years old at Volterra; and afterwards at Rome under Palæmon the grammarian, Virginius the rhetorician, and Cornutus the Stoic, who contracted a friendship for him. Persius consulted that illustrious friend in the composition of his verses. Lucan also studied with him under Cornutus; and was so charmed with his verses, that he was incessantly breaking out into acclamations at the beautiful passages in his satires. He was a lively friend, a good son, an affectionate brother and parent. He was chaste, meek, and modest: which shows how wrong it is to judge of a man's morals by his writings; for the satires of Persius are not only licentious, but sharp and acrimonious. Persius was of a weak constitution, and troubled with a weak stomach, which was the cause of his death in the 30th year of his age. Six of his satires remain; in their judgments of which the critics have been much divided, excepting as to their obscurity. Yet his style is grand, figurative, poetical, and suitable to the dignity of the Stoic philosophy: and hence he shines most in recommending virtue.

PERSKENSTEIN, a town of Silesia, in Neisse, 3 miles NNE. of Ottmuchau.

PERSO, a town of Maritime Austria, in Friuli; 6 miles NW. of Udina.

PERSON. *n. s.* [*personne*, Fr. *persona*, Lat.] 1. Individual or particular man or woman. *Person* is a thinking intelligent being. *Locke.* Man or woman considered as opposed to things, distinct from them.—A zeal for *persons* is far more easy to be perverted, than a zeal for things. *Swift.*—To that we owe the safety of our *persons* and the propriety of our possessions. *Atterbury.* Individual; man or woman.—This was then the church, which was daily increased by the addition of other *persons* received into it. *Pearson.* Human being; considered with respect to mere personal existence.—

'Tis in her heart alone that you must reign;
You'll find her *person* difficult to gain. *Dryden.*

Man or woman considered as present, acting or suffering.—

If I am traduc'd by tongues which neither know
My faculties nor *person*;
'Tis but the fate of place. *Shak. Henry* VIII.

The rebels maintained the fight, and for their *persons* shewed no want of courage. *Bacon.* 6. A general loose term for a human being; one; a man.

A *person*'s attainments ever so great, he must always remember, that he is God's creature. *Clarissa.* 7. One's self; not a representative.

Now that I mean to make a war upon France in *person*, I will declare it to you myself. *Bacon.*—Our Saviour in his own *person*, during the time of his humiliation, duly observed the sabbath. *White.*

The king in *person* visits all around. *Dryden.*

Exteriour appearance.—

For her own *person*,
It beggar'd all description. *Shak.*

9. Man or woman represented in a fictitious dialogue.—All things are lawful unto me, saith the apostle, speaking in the *person* of the christian gentile. *Hooker.*—These tables, Cicero pronounced under the *person* of Crassus. *Baker on Learning.* 10. Character.—From his first appearance upon the stage, in his new *person* of a sycophant or juggler, instead of his former *person* of a prince, he was exposed to the derision of the courtiers and the common people. *Bacon.*—He hath put on the *person* not of a robber and murtherer, but of a traitor to the state. *Hayward.* 11. Character of office.—

I then did use the *person* of your father. *Shak.*—How different is the same man from himself, as he sustains the *person* of a magistrate and that of a friend. *South.* 12. [In grammar.] The quality of the noun that modifies the verb.—He had, with the remembrance of that plight he was in, forgot in speaking of himself the third *person*. *Sidney.*—If speaking of himself in the first *person* singular has so various meanings, his use of the first *person* plural is with greater latitude. *Locke.*

(2.) *A* PERSON is an individual substance of a rational intelligent nature. The word *person*, *persona*, is thought to be borrowed *a personando*, from personating or counterfeiting; and is supposed to have first signified *a mask*: because, as Boethius informs us, *in larva concava sonus volvatur*: and hence the actors who appeared masked on the stage were sometimes called *larvati* and sometimes *personati*. He likewise says, that as the several actors represented each a single individual person, for this reason, other people, who were at the same time distinguished by something in their form, character, &c. whereby they might be known, came likewise to be called by the Latins *personæ*, and by the Greeks πρόσωπα. Again as actors rarely represented any but great and illustrious characters, the word came at length to import the mind, as being that whose dispositions constitute the character. And thus men, angels, and even God himself, were called *persons*. Things merely corporeal, as a stone, a plant, or a horse, were called *hypostases* or *suppositi*, but never *persons*.

(3.) PERSON, in grammar, (§ 1, *def.* 12.) is applied to such nouns or pronouns as, being either perfixed or understood, are the nominatives in all inflections of a verb; or it is the agent or patient in all finite or personal verbs. See ENGLISH LANGUAGE.

(4.) PERSON, in geography, a new county of N. Carolina, in Hillsborough district. The court-house and post office are 26 miles N. of Hillsborough and 34 E. of Caswell.

* PERSONABLE. *adj.* [from *person*.] 1. Handsome; graceful; of good appearance.—Were it true that her son Ninias had such a stature, as that Semiramis, who was very *personable*, could be taken for him; yet it is unlikely that she could have held the empire 42 years after by any such subtility. *Raleigh.* 2. [In law.] One that may maintain any plea in a judicial court. *Ainsw.*

PERSONAGE. *n. s.* [*personage*, Fr.] 1. A considerable person; man or woman of eminence.—These great *personages* thus run one after the other.

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ther. *Sidney.*—It is not eaſy to reſearch the actions of eminent *perſonages*. *Wotton.* 2. Exteriour appearance; air; ſtature.—

She hath urg'd his height,
And with her *perſonage*, her tall *perſonage*,
She hath prevail'd with him. *Shakeſpeare.*

—Lord Sudley was fierce in courage, courtly in faſhion, in *perſonage* ſtately. *Hayward.* 3. Character aſſumed.—The Venetians, naturally grave, love to give into the follies of ſuch ſeaſons, when diſguiſed in a falſe *perſonage*. *Addiſon on Italy.* 4. Character repreſented.—Some perſons muſt be found out, already known by hiſtory, whom we may make the actors and *perſonages* of this fable. *Broome on Epic Poems.*

(1.) * PERSONAL. *adj.* [*perſonel*, Fr. *perſonalis*, Latin.] 1. Belonging to men or women, not to things; not real.—Every man ſo termed by way of *perſonal* difference only. *Hooker.* 2. Affecting individuals or particular people; peculiar; proper to him or her; relating to one's private actions or character.—

I know no *perſonal* cauſe to ſpurn at him.
Shak.

—The words are conditional; if thou doeſt well, and ſo *perſonal* to Cain. *Locke.*—In private converſations the application may be more *perſonal*. *Rogers.*—If he imagines there may be no *perſonal* pride in thoſe that are dreſſed out with ſo much glitter of ornament, let him only make the experiment. *Law.* 3. Preſent; not acting by repreſentative.—

He was *perſonal* in the Iriſh war. *Shak.*

—This immediate and *perſonal* ſpeaking of God Almighty to Abraham, Job, and Moſes, made not all his precepts and dictates, delivered in this manner, ſimply and eternally moral; for ſome of them were *perſonal*, and many of them ceremonial and judicial. 4. Exteriour; corporal.—A princeſs, whoſe *perſonal* charms were now become the leaſt part of her character. *Addiſon.* 5. [In law.] Something moveable; ſomething appendant to the perſon, as money; not real, as land.—

This ſin of kind not *perſonal*
But real and hereditary was. *Davies.*

6. [In grammar.] A perſonal verb is that which has all the regular modification of the three perſons; oppoſed to imperſonal that has only the third.

(2.) PERSONAL implies alſo any thing that concerns, or is reſtrained to, the perſon.

(3.) PERSONAL ACTION, in law, is an action levied directly and ſolely againſt the perſon; in oppoſition to a real or mixed action. See ACTION.

(4.) PERSONAL GOODS, or CHATTELS, in law, ſignifies any moveable thing belonging to a perſon, whether alive or dead. See CHATTELS.

(5.) PERSONAL IDENTITY. See METAPHYSICS. *Sect.* XXIII. § 14.

(6.) PERSONAL VERB, See § 1, *def.* 6.

* PERSONALITY. *n. ſ.* [from *perſonal*.] The exiſtence or individuality of any one.—This *perſonally* extends itſelf beyond preſent exiſtence to what is paſt, only by conſciouſneſs, whereby it imputes to itſelf paſt actions. *Locke.*

To PERSONALIZE, *v. a.* To change from thing to a perſon.

PERSONALIZING, *n. ſ.* See PERSONIFYING.

* PERSONALLY. *adv.* [from *perſonal*.] 1. perſon; in preſence; not by repreſentative.—A probation they give, who *perſonally* declare th aſſent by voice, ſign or act. *Hooker.*—

I could not *perſonally* deliver to her
What you commanded me. *Sh*

—There are many reaſons, why matters of fa a wonderful nature ſhould not be taken notice by thoſe Pagan writers, who lived before our S viour's diſciples had *perſonally* appeared amo them. *Addiſon.* 2. With reſpect to an individu particularly.—She bore a mortal hatred to houſe of Lancaſter, and *perſonally* to the h *Bacon.* 3. With regard to numerical exiſten The converted man is *perſonally* the ſame b before, and is neither born nor created a-new proper literal ſenſe. *Rogers.*

PERSONATÆ, the 40th order in Li us's Fragments of Natural Method, conſi of plants whoſe flowers are furniſhed with regular gaping or grinning petal, which in ſomewhat reſembles the ſnout of an animal. BOTANY, *Index.)* Moſt of the genera of thi der are arranged under the claſs and order namia angioſpermia. The reſt, although they not enter into that artificial claſs and orde want of the claſſic character, the inequality ſtamina; yet, in a natural method, which m of greater latitude, may be arranged with plants which they reſemble in their habit an neral appearance, and particularly in the ch ſtances expreſſed in that title.

* *To* PERSONATE. *v. a.* [from *perſona*, 1. To repreſent by fictitious or aſſumed chara ſo as to paſs for the perſon repreſented.—Th was not to *perſonate* one, that had been lon fore taken out of his cradle, but a youth tha been brought up in a court. *Bacon.* 2. To r ſent by action or appearance; to act.—

Herſelf a while ſhe lays aſide, and make
Ready to *perſonate* a mortal part. *Cra*

3. To pretend hypocritically, with the recip pronoun.—It has been the conſtant practi the Jeſuits to ſend over emiſſaries, with in tions to *perſonate* themſelves members of the ral ſects amongſt us. *Swift.* 4. To counte to feign. Little in uſe.—Piety is oppoſed t *perſonated* devotion under which any kind o piety is diſguiſed. *Hammond.*—Thus have I ed with the dogmatiſt in a *perſonated* ſcep *Glanville.* 5. To reſemble.—

The lofty cedar *perſonates* thee.

6. To make a repreſentative of, as in picture. of uſe.—

One do I *perſonate* of Timon's frame.

7. To deſcribe. Out of uſe.—It muſt be a p *ating* of himſelf; a ſatyr againſt the ſoftn proſperity. *Shak.*—By the colour of his b the ſhape of his leg, the manner of his gait, expreſſure of his eye, forehead and comple he ſhall find himſelf moſt feelingly *perſon Shakeſpeare.*

* PERSONATION. *n. ſ.* [from *perſona* Counterfeit

Counterfeiting of another perſon.—This being one of the ſtrangeſt examples of a *perſonation* that ever was, it deſerveth to be diſcovered and related at the full. *Bacon.*

(1) * PERSONIFICATION. *n. ſ.* [from *perſonify.*] Proſopopœia; the change of things to perſons: as,

Confuſion heard his voice. *Milton.*

(2) PERSONIFICATION, } or PERSONALIZING, PERSONIFYING, } the giving an inanimate being the figure, ſentiments, and language of a perſon. (See ORATORY, § 243.) Dr Blair, in his Lectures on Rhetoric, gives this account of perſonification. "It is a figure, the uſe of which is very extenſive, and its foundation laid deep in human nature. At firſt view, and when conſidered abſtractly, it would appear to be a figure of the utmoſt boldneſs, and to border on the extravagant and ridiculous. For what can ſeem more remote from the track of reaſonable thought, than to ſpeak of ſtones and trees, and fields and rivers, as tho they were living creatures, and to attribute to them thought and ſenſation, affections and actions? One might imagine this to be no more than childiſh conceit, which no perſon of taſte could relish. In fact, however, the caſe is very different. No ſuch ridiculous effect is produced by perſonification when properly employed; on the contrary, it is found to be natural and agreeable, nor is any very uncommon degree of paſſion required in order to make us reliſh it. Ail paſſion, even in its moſt gentle and humble forms, kindles with it. From proſe it is far from being excluded; nay, in common converſation, very frequent approaches are made to it. When we ſay, the ground *thirſts* for rain, or the earth *ſmile* with plenty; when we ſpeak of ambition's being *reſtleſs*, or a diſeaſe being *deceitful*; ſuch expreſſions ſhow the facility with which the mind can accommodate the properties of living creatures to things that are inanimate, or to abſtract conceptions of its own forming." The Dr goes on to inveſtigate the nature of perſonification at conſiderable length. And he adds a very proper caution reſpecting the uſe of it in proſe compoſitions, in which this figure requires to be uſed with great moderation and delicacy. "The ſame liberty is not allowed to the imagination there as in poetry. The ſame aſſiſtances cannot be obtained for raiſing paſſion to its proper height by the force of numbers and the glow of ſtyle. However, addreſſes to inanimate objects are not excluded from proſe; but have their place only in the higher ſpecies of oratory. A public ſpeaker may on ſome occaſions very properly addreſs religion or virtue; or his native country, or ſome city or province, which has ſuffered perhaps great calamities, or has been the ſcene of ſome memorable action. But we muſt remember, that as ſuch addreſſes are among the higheſt efforts of eloquence, they ſhould never be attempted unleſs by perſons of more than ordinary genius; for, if the orator fails in his deſign of moving our paſſions by them, he is ſure of being laughed at. Of all frigid things, the moſt frigid are the awkward and unſeaſonable attempts ſometimes made towards ſuch kinds of perſonification, eſpecially if they be long continued."

* *To* PERSONIFY. *v. a.* [from *perſon.*] To change from a thing to a perſon.

PERSPECTIVE.

PERSPECTIVE.

Definitions.

PERSPECTIVE is thus defined by Dr Johnſon, both as a ſubſtantive and adjective.

* PERSPECTIVE. *n. ſ.* [*perſpectif*, Fr. *perſpicio*, Lat.] 1. A glaſs through which things are viewed—If it tend to danger, they turn about the *perſpective*, and ſhew it ſo little, that he can ſcarce diſcern it. *Denham.*—It may import us in this caſe, to hearken to the ſtorms raiſing abroad; and by the beſt *perſpectives*, to diſcover from what coaſt they break.—

You hold the glaſs, but turn the *perſpective*,
And farther off the leſſen'd object drive. *Dryd.*
Faith for reaſon's glimmering light ſhall give
Her immortal *perſpective*. *Prior.*

2. The ſcience by which things are ranged in a picture, according to their appearance in their real ſituation.—Medals have repreſented their buildings according to the rules of *perſpective*. *Addiſon.* 3. View; viſto.—

Lofty trees, with ſacred ſhades,
And *perſpectives* of pleaſant glades. *Dryden.*

* PERSPECTIVE. *adj.* Relating to the ſcience of viſion; optick; optical.—We have *perſpective* houſes, where we make demonſtrations of all lights and radiations.

PERSPECTIVE is alſo uſed for a kind of picture or painting, frequently ſeen in the gardens, and at the ends of galleries; deſigned expreſsly to deceive the ſight by repreſenting the continuation of an alley, a building, landſcape, or the like.

But PERSPECTIVE, as an art, or branch of ſcience, is the art of drawing on a plane ſurface pictures or true reſemblances of objects, as the objects themſelves appear to the eye from any diſtance and ſituation, real or imaginary. See DRAWING, *Sect.* XIV. and PAINTING, *Part* I, *Sect.* II.

Sect. I. Historical Sketch *of the* Art *of* Drawing *in* Perspective.

THE progreſs made by the ancients in this branch of drawing and painting is very little known. We only learn from Vitruvius, that Agatharchus, inſtructed by Æſchylus, was the firſt who wrote upon this ſubject; and that afterwards the principles of this art were more diſtinctly taught by Democritus and Anaxagoras, the diſciples of Agatharchus.

Of the theory of this art, as deſcribed by them, we know nothing; none of their writings have eſcaped the general wreck of ancient literature, that took place, in the dark ages. But the reviſal of painting in Italy was accompanied with a

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revival of this useful and elegant branch of this art.

It was so late as the 16th century, before PERSPECTIVE was revived, or rather re-invented. It owes its revivigence particularly to that branch of painting, which was employed in the decorations of the theatre, where landscapes were introduced, which would have looked unnatural and horrid, if the size of the objects had not been pretty nearly proportioned to their distance from the eye.

The first who attempted to lay down the rules of perspective was Peter del Borgo, an Italian. He supposed objects to be placed beyond a transparent tablet, and endeavoured to trace the images which rays of light, emitted from them, would make upon it. What success he had in this attempt we know not, as the book which he wrote upon this subject is not extant. It is, however, very much commended by the famous Ignatius Dante; and, upon the principles of Borgo, Albert Durer constructed a machine, by which he could trace the perspective appearance of objects.

Balthazar Peruffi studied the writings of Borgo, and endeavoured to make them more intelligible. To him we owe the discovery of points of distance, to which all lines that make an angle of 45 degrees with the ground line are drawn.

Not long after, Guido Ulbaldi, another Italian, found that all the lines that are parallel to one another, if they be inclined to the ground line, converge to some point in the horizontal line, and that through this point also a line drawn from the eye, parallel to them, will pass. These principles put together enabled him to make out a pretty complete theory of perspective.

Great improvements were made in the rules of perspective by subsequent geometricians; particularly by professor Gravesande, and still more by Dr Brook Taylor, whose principles are in a great measure new, and far more general than any before him.

Sect. II. Outlines of the Principles and Practice of Perspective.

To understand the principles of perspective, it will be proper to consider the plane on which the representation is to be made as transparent, and interposed between the eye of the spectator and the object to be represented. Thus, suppose a person at a window looks through an upright pane of glass at any object beyond it, and, keeping his head steady, draws the figure of the object upon the glass with a black lead pencil, as if the point of the pencil touched the object itself; he would then have a true representation of the object in perspective as it appears to his eye.

To do this, two things are necessary;

1st, That the glass be laid over with strong gum water, which, when dry, will be fit for drawing upon, and will retain the traces of the pencil; and,

2dly, That the student look through a small hole in a thin plate of metal, fixed about a foot from the glass, between it and his eye, and that he keep his eye close to the hole; otherwise he might shift the position of his head, and consequently make a false delineation of the object.

After tracing out the figure of the object, he may go over it again with pen and ink; and when that is dry, put a sheet of paper upon it, and trace it thereon with a pencil: then taking away the paper and laying it on a table, he may finish the picture by giving it the colours, lights, and shades, as he sees them in the object itself; and then he will have a true resemblance of the object.

To such as have a general knowledge of the principles of optics, this must be self-evident: For as vision is occasioned by pencils of rays coming in straight lines to the eye from every part of the visible object, it is plain that, by joining the points in the transparent plane, through which all those pencils respectively pass, an exact representation must be formed of the object, as it appears to the eye in that particular position, and at that determined distance: and were pictures of things to be always first drawn on transparent planes, this simple operation, with the principle on which it is founded, would comprise the whole theory and practice of perspective. As this, however, is far from being the case, rules must be deduced from the sciences of optics and geometry for drawing representations of visible objects on opaque planes; and the application of these rules constitutes what is properly called the ART OF PERSPECTIVE.

Before we lay down the fundamental principles of this art, it is proper to observe, that when a person stands directly opposite to the middle of one end of a long avenue, which is straight and equally broad throughout, the sides thereof seem to approach nearer to each other in proportion as they are farther from his eye; or the angles, under which their different parts are seen, become gradually less, according as the distance from his eye increases; and if the avenue be very long, the sides of it at the farthest end seem to meet: and there an object that would cover the whole breadth of the avenue, and be of a height equal to that breadth, would appear only to be a mere point.

Having made these preliminary observations, we now proceed to the practice of the art, after briefly defining the terms used in it.

Sect. III. Definitions of the Terms Used in Perspective.

1. THE *horizontal line* is that line supposed to be drawn parallel to the horizon through the eye of the spectator; or rather, it is a line which separates the heaven from the earth, and which limits the sight. Thus A, and B, *Plate* XIV,† *fig.* 1, are two pillars below the horizontal line C D, because the eye is elevated above them; in *fig.* 2 they are laid to be equal with it; and in *fig.* 3 raised above it. Thus according to the different points

† *This Plate should have been numbered* Plate CCLXXIV, *according to its proper order; but by a mistake of the engraver, was marked* XIV; *and the whole impression being thrown off, before the error was observed, it was too late to alter it.*

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points of view, the objects will be either higher or lower than the horizontal line.

1. The *point of sight* A, *fig.* 4, is that which makes the centrical ray on the horizontal line *a b*; or it is the point where all the other visual rays D, D, unite.

2. The *points of distance* C, C, *fig.* 4, are points set off in the horizontal line at equal distances on each side of the point of sight A.

3. And in the same figure B B represents the *base line*, or *fundamental line*.

4. E E is the *abridgement* of the square, of which D, D, are the *sides*.

5. F, F, the *diagonal lines* which go to the points of distance C, C.

6. *Accidental points* are those where the objects and lines may be cast negligently, because neither drawn to the point of sight, nor to those of distance, but meeting each other in the horizontal line. For example, two pieces of square timber G and H, *fig.* 5, make the points I, I, I, I, on the horizontal line; but go neither to the point of sight K, nor to the points of distance C, C: these accidental points serve likewise for casements, doors, windows, tables, chairs, &c.

7. The *point of direct view*, or *of the front*, is when we have the object directly before us; in which case it shows only the fore side; and, if below the horizon, a little of the top; but nothing of the sides, unless the object be polygonous.

8. The *point of oblique view* is when we see an object side of us, and as it were aslant, or with the corner of our eye: the eye, however, being all the while opposite to the point of sight; in which case, we see the object laterally, and it presents to us two sides or faces. The practice is the same in these side points, as in the front points; a point of sight, points of distance, &c. being laid down in one case as well as the other.

10. *Ichnography* is the figure of the platform in perspective, or the plan any thing is to be raised on.

11. *Orthography* in perspective is the figure of the front or fore side of an object, as a house, &c.; that is the figure of such an object directly opposite to the eye. As the ichnography represents the plan, the orthography represents the side opposite to the eye.

12. *Scenography* is what exhibits the object quite perfect, with all its diminutions and shadows, front, sides, height, and all raised on the geometrical plan.

SECT. IV. GENERAL RULES RESPECTING PERSPECTIVE.

I. LET every line, which in the object or geometrical figure is straight, perpendicular, or parallel to its base, be so also in its scenographic delineations, or in the description thereof in all its dimensions such as it appears to the eye; and let those lines, which in the object return at right angles from the fore right side, be drawn in like manner scenographically from the point of sight.

II. Let all straight lines, which in the object return from the fore right side, run, in a scenographic figure, into the horizontal line.

III. Let the object you intend to delineate, standing on your right hand, be placed also on the right hand of the point of sight; that on the left hand, on that hand of the same point; and that which is just before, in the middle of it.

IV. Let those lines which, in the object, are equi-distant from the returning line, be drawn, in the scenographic figure from that point found in the horizon.

V. In setting off the altitude of columns, pedestals, and the like, measure the height from the base line upward in the front or fore right side; and a visual ray down that point in the front shall limit the altitude of the column, or pillar, all the way behind the front side, or orthographic appearance, even to the point of sight. This rule must be observed in all figures, as well where there is a front, or fore right side, as where there is none.

VI. In delineating ovals, circles, arches, crosses, spirals, and cross arches, or any other figure in the roof of any room, first draw ichnographically, and so, with perpendiculars from the most eminent points thereof, carry it up to the ceiling, from which several points carry on the figure.

VII. The centre in any scenographic regular figure is found by drawing cross lines from the opposite angles; for the point where the diagonals cross is the centre.

VIII. A ground plane of squares is alike, both above and below the horizontal line; only the more it is distant either above or below the horizon, the squares will be so much the larger or wider.

IX. In drawing a perspective figure where many lines come together, to direct your eye, draw the diagonals in red, the visual lines in black, the perpendiculars in green or any other different colour, from that which you intend the figure shall be of.

X. Having considered the height, distance, and position of the figure, and drawn it accordingly, with its side or angle against the base, raise perpendiculars, from the several angles or designed points, from the figure to the base, and transfer the length of each perpendicular, from the place where it touches the base, to the base on the side opposite to the point of distance. Thus the diametrals to the perpendiculars in the base, by intersection with the diagonals, drawn to the several transferred distances, will give the angles of the figures; and so lines drawn from one point to another will circumscribe the scenographic figure.

XI. If in a landscape there be any standing waters, as rivers, ponds, and the like, place the horizontal line level with the farthest sight or appearance of it.

XII. If there be any houses, churches, castles, towers, mountains, ruins, or the like, in the landscape, consider their position, that you may find from what point in the horizontal lines to draw the front and sides of them in the picture.

XIII. In drawing objects at a great distance, observe the proportions, both in magnitude and distance, in the draught, which appear from the object to the eye.

XIV. In colouring and shadowing of every object, you must make the same colours and shades in your picture which you observe with your eye, in the landscape, especially in drawing and colouring

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louring objects that lie near; but according as the diſtance becomes greater, the colours muſt be fainter, till at laſt they are gradually loſt in a darkiſh ſky colour.

SECT. V. MECHANICAL METHODS of DRAWING in PERSPECTIVE.

To ſuch as are unacquainted with mathematics, we would recommend the following methods, whereby they may lay any plan in perſpective, and raiſe pillars or buildings to due heights, according to their proper diſtances.

I. Suppoſe L L D B A, *fig.* 6. *Plate* XIV, a ſquare piece of pavement, conſiſting of twenty-five pieces of marble, each a foot ſquare: It muſt be meaſured exactly, and laid regularly down upon paper; and for the ſake of a more diſtinct notion how every particular ſquare will appear when you have a true perſpective view of them, mark every other ſtone or marble black; or elſe number each of them as in the figure, which is divided into ſquares, every other one of which may be made to appear black, like the three at the bottom marked B C D: or 1 2 3 4, anſwering to thoſe which are marked in perſpective with the ſame numbers.

Now to lay your plan in perſpective, fix your point of ſight as you obſerve in the figure; or more or leſs to the right or left, as you think proper: then draw the line K K parallel to, and at what diſtance you will from L L; and raiſe a line on each ſide from L to K, to form the figure you ſee, as a frame to your figure; then draw a line from the corner K, which is the point of diſtance, to the oppoſite corner L; and this line will regulate your work. Thus far done, draw lines from the ſquares of your plan to the point of ſight, as exact as poſſible; and wherever your line of diſtance cuts thoſe lines, draw lines parallel to the line L L, which will give you the ſquares in perſpective, or the true figure of every ſquare. Thus D, in the perſpective plan, anſwers to B in the meaſured plan, and 1, 2, 3, and 4, anſwer to their correſponding ſquares in the ſame plan.

To raiſe either pillars, trees, houſes, or any other bodies, according to their reſpective heights, at different diſtances and proportions, on the plan laid down, meaſure them out in perſpective into ſquares of a foot, or any other meaſure. Let one of theſe ſquares, 1, 4 in *fig.* 7, ſerve for the baſe of a pillar a foot thick. Mark the line L K, by the ſcale of the ground plan, into equal proportions or feet; *a*, *b*, *c*, *d*; which being ſo many feet high, and ſtanding on the baſe, are uprights, not in perſpective. Then draw a line, 4 5 parallel to 1 *c*. Join *c* and 5, and then you have the front of a body three feet high and one foot wide, which is the object you were to raiſe. From 4 draw a line, with a black lead pencil, to the point of ſight; and from 3 raiſe a line parallel to 4 5, till it touches the pencilled line paſſing from 5 to the point of ſight, which will give you the ſide appearance of the column or body, as you will ſee it from the place where you ſtand.

Then, with a pencil, from *c* draw a line to the point of ſight, which will determine the line 6 7 that bounds the perſpective view of the column atop. Afterwards from 2 raiſe a pencilled line parallel to *a c* or 1 *c*, till it touches the line drawn from *c* to the point of ſight; then draw 6 7 parallel to *c* 5, and you will have the ſquare of the top of the column, as obſerved from A, which is ſuppoſed to be the place where you ſtand.

It is to be obſerved, that the line drawn from 2 to 6 is only an imaginary line, and in conſequence is to be rubbed out, becauſe not being ſeen from the place where you ſtand, it muſt not appear in the drawing. The ſame may be underſtood of the line drawn from 1 to 2; but it is neceſſary that they appear in the draught, on account that they direct you how to regulate the top of your column, and to place it with certainty upon its baſe.

Laſtly, finiſh your column with lines only, that is, from 1 to *c*, from 4 to 3, from 3 to 7, from 7 to 5, from 6 to 7, and from 1 to 4, whereby you will have the true repreſentation of the column as in *fig.* 8.

When this is done, you may erect another column on any one of the ſquares in the ſame manner, obſerving to fling your ſhades all on one ſide; and being able to maſter theſe few examples, which may coſt you very little trouble, you will be capable of doing any thing in this way.

II. The following is the method of the celebrated *Sir Chriſtopher Wren*, and may be put in practice with great eaſe. A, *fig.* 9, *Plate* XIV, a ſmall ſight with a ſhort arm, B, which may be turned about and moved up and down the ſmall cylinder C D, which is ſcrewed into the piece E D, at D: this piece E D moving round about the center E, by which means the ſight may be removed either towards E or F. F is a ruler faſtened on the two rulers G, G, which ſerve both to keep the ſquare frame S S S S perpendicular, and by their ſliding through the ſquare holes at T, they ſerve to ſtay the ſight either farther from or nearer to, the ſaid frame; on which frame is ſtuck with a little wax the paper O O O, whereon the picture is to be drawn by the pen. The pen I is by a ſmall braſs handle V ſo fixed to the ruler H H, that the point I may be held very firm, ſo as always to touch the paper. K is a ruler that is, by means of the ſmall ſtrings *a a a a a*, *b b b b b*, conſtantly moved horizontally or parallel to itſelf; at the end of which is ſtuck a ſmall pin, whoſe head P is the ſight which is to be moved up and down on the ſeveral lines of any object.

The conſtruction of the ſtrings is this: The two ſtrings *a a a a a*, *b b b b b*, are exactly of an equal length: two ends of them are faſtened into a ſmall leaden weight, which is employed in a ſocket on the back ſide of the frame, and ſerves exactly for a counterpoiſe the ruler H H, being of an equal weight with it. The other two ends of them are faſtened to two ſmall pins H H, after they have rolled about the ſmall pullies M M, L L, K K, by means of which pullies if the pen I be taken hold of, and moved up and down the paper, the ſtring moving very eaſily, the ruler will always remain in a horizontal poſition.

The manner of uſing it is this: Set the inſtrument upon a table, and fix the ſight A at what height above the table, and at what diſtance from the frame, S S S S, you pleaſe. Then looking through

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through the sight A, holding the pen I in your hand, move the head of the pin P up and down the out-lines of the object, and the point of the pen, I, will describe on the paper, O O O O, the shape of the object so traced.

III. Another mechanical method of designing such practised is by means of the *Camera Obscura*, a machine that represents an artificial eye, wherein the images of external objects are exhibited distinctly in their native colours, either inverted or erect. The camera obscura, or dark chamber, is made after two different methods. The one is the camera obscura, properly so called; that is, any large room made as dark as possible, save to exclude all light but that which is to pass through the hole and lens in a ball fixed in a window in the room. The other is made in various forms, as that of a box, the sides of which fold out, &c. for the conveniency of carrying it from place to place.

For the construction of a camera obscura, 1. Darken the room E F, *fig.* 10, *Plate* XIV, leaving only one little aperture open in the window at V, on the side I K, facing the prospect A B C D. 2. In this aperture fit a lens, either plano-convex, or convex on both sides. 3. At a due distance, to be determined by experience, spread a paper or white cloth, unless there be a white wall for the purpose: then on this G H, the desired objects A B C D will be delineated invertedly. 4. If you would have them appear erect, place a concave lens between the centre and the focus of the first lens, or receive the image on a plane speculum inclined to the horizon under an angle of 45°, or use two lenses included in a draw-tube instead of one. If the aperture do not exceed the bigness of a pea, the objects will be represented without any confusion at all. And thus the objects may be drawn and copied to the greatest degree of accuracy.

The student will adopt any of these methods which he finds will be most suitable to his purpose: but the *Camera Obscura* is that which is most generally used by painters. This method has also the additional advantage of giving the student a correct idea of colouring from nature. The student who may not find it convenient to get a large camera obscura made, such as is here described, may purchase one of the common small ones made and sold at London for 15 shillings.

SECT. VI. RULES *and* EXAMPLES *in* SCENOGRAPHIC PERSPECTIVE, *&c.*

I. SUPPOSE the pentagon ABDEF, *fig.* 11, here to be represented by the rules of perspective on the transparent plane VP, placed perpendicularly on the horizontal plane HR, dotted lines are supposed to pass from the eye C to each point of the pentagon CA, CB, CD, &c. which are supposed, in their passage through the plane PV, to leave their traces or vestiges in the points *a*, *b*, *d*, &c. on the plane, and thereby to delineate the pentagon *a b d e f*; which, as it strikes the eye by the same rays that the original pentagon A B D E F does, will be a true perspective representation of it.

II. To find the perspective appearance of a triangle, H B C, *fig.* 12, between the eye and the triangle, draw the line D E, which is called the fundamental line; from 2 draw 2 V, representing the perpendicular distance of the eye above the fundamental line, be it what it will; and through V draw, at right angles to 2 V, H K parallel to D E: then will the plane D H K E represent the transparent plane, on which the perspective representation is to be made. Next to find the perspective points of the angles of the triangle, let fall perpendiculars A 1, C 2, B 3, from the angles to the fundamental D E; set off these perpendiculars upon the fundamental, opposite to the point of distance K, to B, A, C. From 1, 2, 3, draw lines to the principal point V; and from the points A, B, and C, in the fundamental line, draw the right lines A K, B K: C K to the point of distance K; which is so called because the spectator ought to be so far removed from the figure or painting, as it is distant from the principal point V. The points *a*, *b*, and *c*, where the visual lines V 1, V 2, V 3, intersect the lines of distance A K, B K, C K, will be angular points of the triangle *a b c*, the true representation of A B C.

By proceeding in this manner with the angular points of any right-lined figure, whether regular or irregular, it will be very easy to represent it in perspective.

III. If the scenographic appearance of any solid were to be represented; suppose of a triangular prism, the base of which is the triangle *mno*, *fig.* 13, you need only find the upper surface of it, in the same manner as you found the lower, or base; and then joining the corresponding points by right lines, you will have the true representation of the solid in perspective. So that the work is the same as before: only you take a new fundamental line, as much higher than the former, as is the altitude of that solid the scenographic representation of which you would delineate.

IV. There is still a more commodious way, which is this: Having found, as above, the base or ichnographic plate *mno*, let perpendiculars be erected to the fundamental line from the three angular points, which will express the altitudes of those points. But because these altitudes, though equal in the body or solid itself, will appear unequal in the scenographic view, the farthest off appearing less than those nearer the eye, their true proportional heights may be thus determined. Any where in the fundamental line, let A B be erected perpendicularly, and equal to the true altitude; or, if the figure have different altitudes, let them be transferred into the perpendicular AB; and from the points A and B, and from all the points of intermediate altitudes, if there be any such, draw right lines to the point of sight, V: those lines AV, BV, will constitute a triangle with AB, within which all the points of altitude will be contained. Through the points *o n m*, draw parallels to the fundamental line; and from the points *a a*, *&c.* erect perpendiculars to those parallels; and the points where they intersect the lines A V, B V; as in *a a*, *b b*, *&c.* will determine the apparent height of the solid in the scenographic position to the eye in V.

In practice, these parallels and perpendiculars are easily drawn, by means of a good drawing board, or table, fitted for the purpose.

V. To

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V. To exhibit the perſpective of a pavement, conſiſting of ſquare ſtones viewed directly: Divide the ſide A B, *fig.* 14, transferred to the fundamental line D E, into as many equal parts as there are ſquare ſtones in one row. From the ſeveral points of diviſion draw right lines to the principal point V, and from A to the point of diſtance K, draw a right line A K, and from B to the other point of diſtance L, draw another L B. Through the points of the interſections of the correſponding lines draw right lines on each ſide, to be produced to the right lines A V and B V. Then will *a f g b* be the appearance of the pavement AFGB.

VI. To ſhow the perſpective appearance of a ſquare A B D C, *fig.* 15, ſeen obliquely, and having one of its ſides AB in the fundamental line. The ſquare being viewed obliquely aſſume the principal point V, in the horizontal line H R, in ſuch a manner, as that a perpendicular to the fundamental line may fall without the ſide of the ſquare AB, or at leaſt may not biſect it; and make VK the diſtance of the eye. Transfer the perpendiculars A C and B D to the fundamental line D E; and draw the right lines K B, K D; as alſo A V and V C: then will A and B be their own appearances; and *c* and *d* the appearances of the points C and D conſequently, A *c d* B is the appearance of the ſquare A B D C.

VII. If the ſquare A C B D be at a diſtance from the fundamental line D E, which rarely happens in practice, the diſtances of the angles A and B muſt likewiſe be transferred to the fundamental line; and even the oblique view itſelf is not very common. The reaſon why objects appear ſmaller as they are at a greater diſtance is, that they appear according to the angle of the eye, wherein they are ſeen; and this angle is taken at the eye, where the lines terminating the objects meet.

VIII. For example, the eye A, *fig.* 16, viewing the object B C, will draw the rays A B and A C, which give the angle B A C; ſo that an object viewed under a greater angle will appear larger, and another under a leſs angle ſmaller. That among equal objects, thoſe at the greateſt diſtance appear ſmalleſt, and conſequently, that in all perſpective the remoteſt objects muſt be made the ſmalleſt, will be manifeſt from the figure: the objects B C, D E, F G, H I and K L, being all equal, but at different diſtances from the eye, it is evident that the angle D A E is leſs than the angle B A C, that F A G is leſs than D A E, that HAI is leſs than F A G, and that K A L is leſs than H A I. Hence the 2d, 3d, 4th, and 5th objects, will appear ſmaller, though really all equal, inaſmuch as the angles diminiſh in proportion as the objects recede. If the eye, on the other hand, were removed to M, K L would appear the largeſt, and B C no bigger than N O.

IX. It follows, that, as objects appear ſuch as is the angle they are ſeen under, if ſeveral lines be drawn between the ſides of the ſame triangle, they will all appear equal: thus all the lines comprized between the ſides O N and O P, *fig.* 17, of the triangle N O P, will appear equal to each other: and as objects comprehended under the ſame angle ſeem equal, ſo all comprehended under a greater angle muſt ſeem greater, and all under a ſmaller angle, leſs.

X. This being premiſed, if there be a number of columns or pilaſters to be ranged in perſpective on each ſide of a hall, church, or the like, they muſt of neceſſity be all made under the ſame angle, and all tend to one common point in the horizon O, *fig.* 18. For inſtance, if from the points D E, the eye being placed at A, and viewing the firſt object D E, you draw the viſual rays D O and E O, they will make the triangle D O E, which will include the columns D E, F G, H I, K L, M N, ſo as they will all appear equal.

XI. What has been ſaid of the ſides is likewiſe to be underſtood of the ceilings and pavements; the diminutions of the angles of remote objects placed either above or below, following the ſame rule as thoſe placed laterally. Trees being regarded by the ſame law, have the ſame effect as columns, &c. for being all comprehended in the ſame angle, and the two rays having each its own angle, and all the angles meeting in a point, they form a third, which is the earth, and a ſecond which may be ſuppoſed the air, and thus afford an elegant proſpect.

XII. To exhibit the perſpective of a circle: the circle be ſmall, circumſcribe a ſquare about it, draw diagonals and diameters *b a* and *d e*, *fig.* 19, interſecting each other at right angles; and draw the right lines *f g* and *b c* parallel to the diameter *d e* through *b* and *f*: as alſo through *f* and *g* right lines meeting the fundamental line in the points 3 and 4. To the principal point V draw right lines V 1, V 3, V 4, V 2, and to the points of diſtance L and K draw the right lines L 5, K 1. Laſtly, connect the points of interſection *a, b, d, f, h, g, e, c*, with the arches *a b*, *b d*, &c. Thus will *a b d f h g e c* be the appearance of the circle.

XIII. If the circle be large, on the middle of the fundamental A B, *fig.* 20, deſcribe a ſemicircle, and from the ſeveral points of the periphery F, G, H, I, &c. to the fundamental line, let fall perpendiculars C 1, F 2, G 3, H 4, I 5, &c. From the points A, 1, 2, 3, 4, 5, &c. draw right lines to the principal point V; as alſo a right line from B, to the point of diſtance L, and another from A to the point of diſtance K. Through the common interſection right lines, as in the preceding caſe: thus we ſhall have the points *a, b, c*, which are the repreſentations of theſe points C, F, G, H, I, which being connected as before give the projection of the circle. Hence it appears not only how any curvilinear figure may be projected on a plane, but alſo how any pavement conſiſting of any kind of ſtones may be deſcribed in perſpective.

XIV. If any complicated figure be propoſed, it may not be eaſy to apply the practical rules to the deſcription of every minute part; but by inſcribing that figure in a regular one properly ſubdivided, and reduced into perſpective, a perſon accuſtomed in drawing may with eaſe deſcribe the object propoſed.

Upon the whole, where the boundaries of the propoſed objects conſiſt of ſtraight lines and plane ſurfaces, they may be deſcribed directly by the rules of perſpective: but when they are curvi-

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ter, either in their ſides or ſurfaces, the practical rules can only ſerve for the deſcription of ſuch right-lined caſes as may conveniently encloſe the object, and which will enable the ſtudent to draw them within thoſe known bounds with a ſufficient degree of exactneſs.

It would indeed be a fruitleſs taſk, to ſeek by practical rules of perſpective to deſcribe all the little hollows and prominences of objects; the different lights and ſhades of their parts, or the ſmaller windings and turnings; the infinite variety of the folds in drapery; of the boughs and leaves of trees; or the features and limbs of men and animals; much leſs to give them that roundneſs and ſoftneſs, that force and ſpirit, that eaſineſs and freedom of poſture; that expreſſion and life, which are requiſite to a good picture.

Sect. VII. Conclusion.

It may appear a bold aſſertion to ſay, that the ſhort ſketch now given of the art of perſpective is ſufficient foundation for the whole practice, and includes *all* the expeditious rules peculiar to the problems which moſt generally occur. The ſcientific foundation being ſo ſimple, the practice need not be complex, nor ſwell into ſuch volumes as have been publiſhed on the ſubject; volumes which, by their ſize, deter from the ſtudy, and give the ſimple art all the appearance of myſtery; and by their prices, defeat the deſign of the authors, the diſſemination of knowledge among the practitioners.

Books on perſpective have acquired their bulk by long and tedious diſcourſes, minute explications of common things, or by great numbers of examples: which indeed make ſome of the books valuable by the variety of curious cuts, but do not at all inſtruct the reader by any improvements in the art itſelf. For moſt of thoſe who have treated this ſubject have been more converſant in the practice of deſigning, than in the principles of geometry; and therefore when, in practice, the caſes which offered have put them on trying particular expedients, they have thought them worth communicating to the public as improvements of the art; and each author, having his own little expedient, (which a ſcientific perſon would have known for an eaſy corollary from the general theorem,) have made it the principle of a practical ſyſtem; thus *narrowing* and not *enlarging* the knowledge of the art; and the ſtudent, tired of the bulk of the volume, in which a ſingle maxim is tediouſly ſpread out, and the principle on which it is founded kept out of ſight, contents himſelf with a remembrance of the maxim (not underſtood), and keeps it ſlightly in eye, to avoid groſs errors.

For the truth of this aſſertion, we may appeal to the whole body of painters and draughtſmen; which muſt not be conſidered as an imputation on them of remiſſneſs or negligence, but as a neceſſary conſequence of the ignorance of the authors from whom they have taken their information. They may ſeem ſevere, but it is not the leſs juſt. Many mathematicians of eminence have written on perſpective, treating it as the ſubject of pure ſcience, as it really is; and the performances of *Brook Taylor*, *Gravesande*, *Wolf*, *De la Caille*, *Emerſon*, and *Malton*, are truly valuable, by preſenting the art in all its perſpicuity and univerſality.

The works of Taylor and Emerſon are peculiarly valuable, on account of the very ingenious and expeditious conſtructions which they have given ſuited to every poſſible caſe. The merit of the firſt author has been univerſally acknowledged by all the Britiſh writers on the ſubject, who candidly declare that their own works are compoſed on the principles of Dr Taylor: but any man of ſcience may perceive that theſe authors have either not underſtood them, or aimed at pleaſing the public by fine cuts and uncommon caſes: for, without exception, they have omitted his favourite conſtructions, which had gained his prediction by their univerſality, and attached themſelves to inferior methods, more uſually expedient perhaps, or *inventions* (as they ſuppoſed) of their own.

What has been laid down in this treatiſe is not *profeſſed* to be according to the principles of Dr Taylor, becauſe the principles are not *peculiar* to him, but the neceſſary reſults of the theory itſelf, and inculcated by every *mathematician* who had conſidered the ſubject. They are ſufficient not only for directing the ordinary practice, but alſo for ſuggeſting modes of conſtruction for every caſe out of the common track. And any perſon of ingenuity may have a laudable enjoyment in thus, without much ſtretch of thought, inventing rules for himſelf; and will be better pleaſed with ſuch fruits of his own ingenuity, than in reading the tedious explanations of examples deviſed by others. We would therefore, with Dr Taylor, "adviſe all our readers not to be contented with the ſcheme they find here; but, on every occaſion, to draw new ones of their own, in all the variety of circumſtances they can think of. This will take up more time at firſt, but they will find the vaſt benefit and pleaſure of it by the extenſive notions it will give them of the nature of the principles."

The art of perſpective is neceſſary in all arts where there is any occaſion of deſigning; but it is more particularly neceſſary for landſcape drawing which can do nothing without it. A figure in a picture, which is not drawn according to the rules of perſpective, does not repreſent what is intended. Indeed we heſitate not to ſay that a picture which is deficient in this particular, is as blameable as any compoſition in writing which is deficient in point of grammar.

It would certainly be thought ridiculous were any perſon to pretend to write an heroic poem, or a fine diſcourſe, upon any ſubject, without underſtanding the grammatical propriety of the language in which he wrote; and it ſeems no leſs ridiculous for one to attempt to make a good picture without underſtanding perſpective. Yet how many pictures are there to be ſeen, that are highly valuable in other reſpects, and yet are extremely faulty in this point?—Indeed this fault is ſo general, that we hardly remember to have ſeen a picture entirely free of it; and what is the more to be lamented, the greateſt maſters have been the moſt guilty of it. Such examples make it the leſs regarded, but the fault is only the more to be lamented, and requires the more care to avoid it.

A principal cauſe of this fault is doubtleſs th

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wrong method that is generally used in educating persons in this art: for young people are generally put early to drawing, and when they have acquired a facility in that, they are immediately put to colouring. These things they learn by practice, and as it were by rote; but are not instructed in any rules of art; by which means, when they come to make designs of their own, though they are very expert at drawing and colouring every thing that offers itself to their fancy; yet for want of instruction in the strict rules of the art they do not know how to govern their inventions with judgment. Thus they become guilty of so many gross mistakes, that they prevent themselves, as well as others, from finding that satisfaction they otherwise would do in their performances. To correct this, we would recommend it to the masters of the art, to begin their instructions with the technical parts of painting, before they let the students loose to follow the inventions of their own imaginations.

In a word, it should be remembered, that the art of drawing taken in its full extent, consists of two parts; the inventive, and executive. The inventive part, like poetry, belongs more properly and immediately to the original design, (which it invents and disposes in the most proper and agreeable manner,) than to the finished drawing, which is only a copy of that design already formed in the imagination of the artist. The perfection of this art depends upon the thorough knowledge the artist has of all the parts of his subject; the beauty of it consists in the happy choice and disposition that he makes of it: and it is in this, that the genius of the artist discovers itself, while he indulges and humours his fancy, which here is qui unconfined. But the other, the executive part painting, is wholly confined to the rules of a which cannot be dispensed with in this, and the fore the student ought to govern himself, entir by these rules.

Nothing ought to be more familiar to the dent than perspective; for it is the only thing can make the judgment correct, and will help fancy to invent with ten times the ease that could do without it.

To conclude, although a knowledge of spective is necessary in drawing, yet the stud must not think of restricting himself to mathe tical exactness in finishing a perspective vi However paradoxical it may appear, the ex ness of mathematics in perspective must be rected by the eye; otherwise the most acur finished perspective, done upon the strict thematical principles, will have a very stiff, ward and unnatural appearance. In a word, student must combine a knowledge of mathe tics with an accurate eye and correct taste, at the same time that he never loses sight o one, take the utmost care not to trespass a the other. In drawing perspective views, ever, of celebrated buildings, such as the *Office* of Edinburgh, or *Somerset-house* at Lon where there is no view of the street given with them, they must always be done with strictest mathematical exactness. But where public buildings are introduced as forming of a street, measurement is not strictly attende as it would give the whole too stiff an ap ance.

PER

(1.) PERSPECTIVE, AERIAL, is sometimes used as a general denomination for that which is more restrictedly called, 1. *Aerial perspective*, or the art of giving a due diminution or degradation to the strength of light, shade, and colours of objects, according to their different distances, the quantity of light which falls upon them, and the medium through which they are seen: 2. The CHIARO OBSCURO, or *clair obscure*, which consists in expressing the different degrees of light, shade, and colour of bodies, arising from their own shape, and the position of their parts, with respect to the eye and neighbouring objects, whereby their light or colours are affected; and 3. KEEPING, which is the observance of a due proportion in the general light and colouring of the whole picture, so that no light or colour in one part may be too bright or strong for another. See KEEPING.

(2.) PERSPECTIVE, BIRD'S EYE VIEW IN, is that which supposes the eye to be placed above any building, &c. as in the air at a considerable distance from it. This is applied in drawing the representations of fortifications, when it is necessary not only to exhibit one view as seen from the ground, but so much of the several buildings as the eye can possibly take in at one time from any situation. In order to this, we must suppose the eye to be removed a considerable height above the ground, and to be placed as it were in the air, so as to look down into the building like a bird is flying. In representations of this kind, the er the horizontal line is placed, the more fortification will be seen, and *vice versa*.

(3.) PERSPECTIVE GLASS, or GRAPHICAL spective. See DIOPTRICS, § 49, and OP

(4.) PERSPECTIVE MACHINE, an instrume which any person, without the help of the ru art, may delineate the true perspective figures o jects. Mr Ferguson has described a machine of sort of which he ascribes the invention to Dr *fig.* 4. of *Pl.* CCLXXIII. is a plane of this mac and *fig.* 5. is a representation of it when ma of in drawing distant objects in perspective *fig.* 4. *a b e f* is an oblong square board, repre by ABEF in *fig.* 5. *x* and *y* (X and Y) a hinges on which the part *c l d* (CLD) is mov This part consists of two arches or portions cles *c m l* (CML) and *d n l* (DNL) joined toge at the top *l* (L), and at bottom to the cross b (DC), to which one part of each hinge is and the other part to a flat board, half the le of the board *a b e f* (ABEF), and glued t uppermost side. The centre of the arch is at *d*, and the centre of the arch *d n l* is at the outer side of the arch *d n l* is a sliding pie (much like the nut of the quadrant of altitude longing to a common globe), which may be ved to any part of the arch between *d* and *l*:

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Fig. 1.

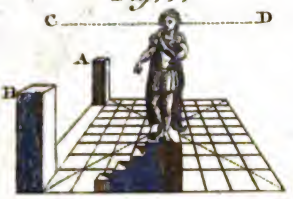


Fig. 2.

Fig. 3.

Fig. 4

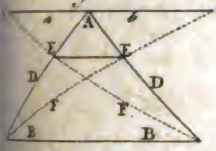


Fig. 5.

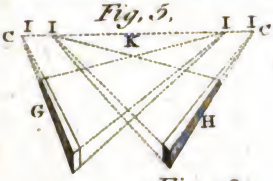


Fig. 6.

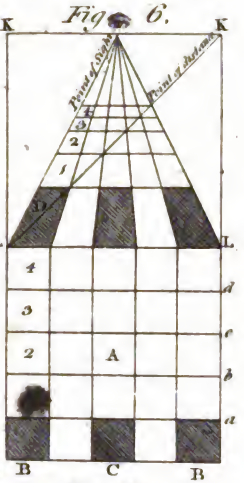


Fig. 7.

Fig. 8.

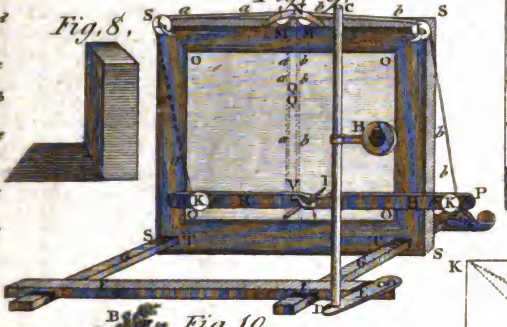


Fig. 9.

Fig. 11.

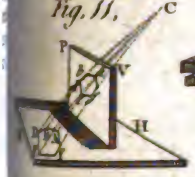


Fig. 12.

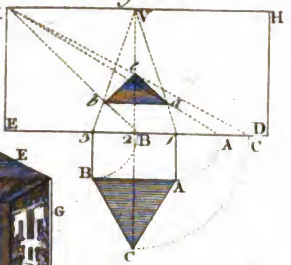


Fig. 10.

Fig. 13.

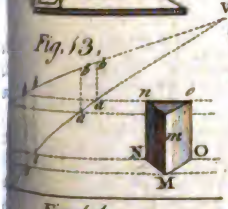


Fig. 14.

Fig. 17.

Fig. 15.

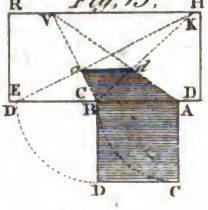


Fig. 18.

Fig. 16.

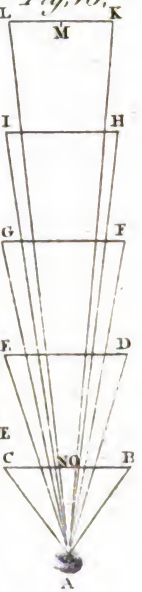
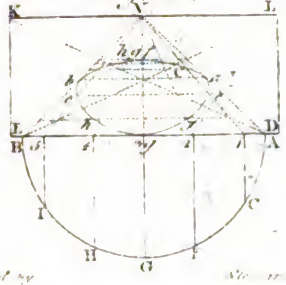


Fig. 19.

Fig. 20.



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ere is ſuch another ſlider *o* on the arch *c m l*, uch may be ſet to any part between *c* and *l*.—A read *c p n* (CPN) is ſtretched tight from the cen- *c* (C) to the ſlider *n* (N), and ſuch another ead is ſtretched from the centre *d* (D) to the ſli- *o* (O); the ends of the threads being faſtened theſe centres and ſliders. By moving theſe ſli- on their reſpective arches, the interſection *p* of the threads may be brought to any point of open ſpace within the arches.—In the groove C) is a ſtraight ſliding bar *i* (I), which may be ve further out, or puſhed further in at plea- . To the outer end of this bar I (*fig.* 5.) is d the upright piece HZ, in which is a groove receiving the ſliding piece Q. In this ſlider is all hole *r* for the eye to look through, in uſing machine: and there is a long ſlit in HZ, to let hole *r* be ſeen through, when the eye is pla- behind it, at any height of the hole above the d of the bar I.

5) PERSPECTIVE MACHINE, METHOD OF U- TH. Suppoſe you want to delineate a per- ive repreſentation of the houſe *q r s p*, *Fig.* 5. ich we muſt imagine to be a great way off,) the machine on a ſteady table, with the end the horizontal board ABEF toward the , ſo that, when the Gothic-like arch DLC is right, the middle part of the open ſpace (a- P) within it may be even with the houſe you place your eye at Z and look at the through the ſmall hole *r*. Then fix the cor- of a ſquare piece of paper with four wafers he ſurface of that half of the horizontal board is neareſt the houſe; and all is ready for . Set the arch upright, as in the figure; it will be when it comes to the perpendi- ſide *t* of the upright piece *s t* fixed to the ontal board behind D. Then place your eye and look through the hole *r* at any point of ouſe, as *q*, and move the ſliders N and O till ring the interſection of the threads at P di- between your eye and the point *q*: then put the arch flat upon the paper on the board, ST, and the interſection of the threads will W. Mark the point W on the paper with t of a black lead pencil, and ſet the arch it again as before: then look through the , and move the ſliders N and O till the in- ion of the threads comes between your eye y other point of the houſe, as *p*: then put the arch again to the paper, and make a mark thereon at the interſection of the s, and draw a line from that mark to the r one at W; which line will be a true per- e repreſentation of the corner *p q* of the . Proceed in the ſame manner, by bringing terſection of the threads ſucceſſively between ye and other points of the outlines of the as *r*, *s*, &c. and put down the arch to mark e points on the paper, at the interſection of reads; then connect theſe points by ſtraight which will be the perſpective outlines of the

In like manner find points for the corners door and windows, top of the houſe, chim- &c. and draw the finiſhing lines from point nt: then ſhade the whole, making the lights hades as you ſee them on the houſe itſelf, ou will have a true perſpective figure of it.

—Great care muſt be taken, during the whole time, that the poſition of the machine be not ſhift- ed on the table; and to prevent ſuch an inconve- nience, the table ſhould be very ſtrong and ſteady, and the machine fixed to it either by ſcrews or clamps. (See PERSPECTIVE.) Mr Peacock like- wiſe invented three ſimple inſtruments for draw- ing architecture and machinery in perſpective, of which the reader will find ſketches and deſcrip- tions in the 75th vol. of the *Philoſ. Tranſ.*

* PERSPICACIOUS. *adj.* [*perſpicax*, Latin.] Quickſighted; ſharp of ſight.—It is as nice and tender in feeling, as it can be *perſpicacious* and quick in ſeeing. *South.*

* PERSPICACIOUSNESS. *n. ſ.* [from *perſpi- cacious.*] Quickneſs of ſight.

* PERSPICACITY. *n. ſ.* [*perſpicacité*, French.] Quickneſs of ſight.—He that laid the foundations of the earth cannot be excluded the ſecrecy of the mountains; nor can there any thing eſcape the *perſpicacity* of thoſe eyes, which were before light, and in whoſe opticks there is no opacity. *Brown.*

* PERSPICIENCE. *n. ſ.* [*perſpiciens*, Latin.] The act of looking ſharply. *Dict.*

* PERSPICIL. *n. ſ.* [*perſpicillum*, Lat.] A glaſs through which things are viewed; an optick glaſs. Little uſed.—

Let truth be
Ne'er ſo far diſtant, yet chronology
Will have a *perſpicil* to find her out. *Craſhaw.*

—The *perſpicil*, as well as the needle, hath enlar- ged the habitable world. *Glanville.*

(1.) * PERSPICUITY. *n. ſ.* [*perſpicuité*, Fr. from *perſpicuous.*] 1. Tranſparency; tranſlucency; dia- phaneity.—As for diaphaneity and *perſpicuity*, it enjoyeth that moſt eminently. *Brown.* 2. Clear- neſs to the mind; eaſineſs to be underſtood; free- dom from obſcurity or ambiguity.—The verſes containing precepts, have not ſo much need of ornament as of *perſpicuity*. *Dryden.*—*Perſpicuity* conſiſts in the uſing of proper terms for the thoughts, which a man would have paſs from his own mind into another's. *Locke.*

(2.) PERSPICUITY. See ORATORY, § 124—131.

* PERSPICUOUS. *adj.* [*perſpicuus*, Latin.] 1. Tranſparent; clear; ſuch as may be ſeen through; diaphanous; tranſlucent; not opake.—The clear and *perſpicuous* body effecteth white, and that white a black. *Peacham.* 2. Clear to the under- ſtanding; not obſcure; not ambiguous.—

The purpoſe is *perſpicuous*. *Shak.*

—All this is ſo *perſpicuous*, ſo undeniable, that I need not be over induſtrious in the proof of it. *Spratt.*

* PERSPICUOUSLY. *adv.* [from *perſpicuous.*] Clearly; not obſcurely.—The caſe is no ſooner made than reſolved; if it be made not enwrapped, but plainly and *perſpicuouſly*. *Bacon.*

* PERSPICUOUSNESS. *n. ſ.* [from *perſpicuous.*] Clearneſs; freedom from obſcurity; tranſparence; diaphaneity.

* PERSPIRABLE. *adj.* [from *perſpire.*] 1. Such as may be emitted by the cuticular pores.—In an animal under a courſe of hard labour, ali- ment too vaporous or *perſpirable* will ſubject it to too ſtrong a perſpiration, debility, and ſudden death. *Arbuthnot.* 2. Perſpiring; emitting per- ſpiration.

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ſpiration. Not proper.—Hair cometh not upon the palms of the hands or ſoles of the feet, which are parts more *perſpirable:* and children are not hairy, for that their ſkins are moſt *perſpirable. Bacon.*—Electricks will not commonly attract, unleſs they become *perſpirable. Brown.*

(1.) * PERSPIRATION. *n. ſ.* [from *perſpire.*] Excretion by the cuticular pores.—Inſenſible *perſpiration* is the laſt and moſt perfect action of animal digeſtion. *Arbuthnot.*

(2.) PERSPIRATION, in medicine, is the evacuation of the juices of the body through the pores of the ſkin. Perſpiration is diſtinguiſhed into ſenſible and inſenſible; and here ſenſible perſpiration is the ſame with ſweating, and inſenſible perſpiration that which eſcapes the notice of the ſenſes. This laſt is the idea affixed to the word *perſpiration* when uſed alone.

* PERSPIRATIVE. *adj.* [from *perſpire.*] Performing the act of perſpiration.

* *To* PERSPIRE. *v. n.* [*perſpiro*, Latin.] 1. To perform excretion by the cuticular pores. 2. To be excreted by the ſkin.—Water, milk, whey, taken without much exerciſe, ſo as to make them *perſpire*, relax the belly. *Arbuthnot.*

PERSTAIN, a town of Bohemia, in the circle of Boleſlau; 14 miles NW. of Jung Buntzel.

* *To* PERSTRINGE. *v. a.* [*perſtringo*, Latin.] To gaze upon; to glance upon. *Dict.*

* PERSUADABLE. *adj.* [from *perſuade.*] Such as may be perſuaded.

* *To* PERSUADE. *v. a.* [*perſuadeo*, Lat. *perſuader*, Fr.] 1. To bring to any particular opinion.—Let every man be fully *perſuaded* in his own mind. *Rom.*—We are *perſuaded* better things of you. *Heb.* vi. 9.—Joy over them that are *perſuaded* to ſalvation. 2 *Eſdras*, vii.—Let a man be ever ſo well *perſuaded* of the advantages of virtue, yet, till he hungers and thirſts after righteouſneſs, his will will not be determined to any action in purſuit of this confeſſed great good. *Locke.*—Men ſhould ſeriouſly *perſuade* themſelves, that they have here no abiding place. *Wake.* 2. To influence by argument or expoſtulation. *Perſuaſion* ſeems rather applicable to the paſſions, and *argument* to the reaſon; but this is not always obſerved.—Philoclea's beauty not only *perſuaded*, but ſo *perſuaded* as all hearts muſt yield. *Sidney.*—They that were with Simon, being led with covetouſneſs, were *perſuaded* for money. 2 *Mac.*—To ſit croſs-leg'd, or with our fingers pectinated, is accounted bad, and friends will *perſuade* us from it. *Brown.*—How incongruous would it be for a mathematician to *perſuade* with eloquence, that he might prevail with his hearers to believe that *three and three make ſix! Wilkins.*—I ſhould be glad, if I could *perſuade* him to write ſuch another critick on any thing of mine. *Dryden.* 3. To inculcate by argument or expoſtulation.—To children, afraid of vain images, we *perſuade* confidence by making them handle and look nearer ſuch things. *Taylor.* 4. To treat by perſuaſion. A mode of ſpeech not in uſe.—

Twenty merchants have all *perſuaded* with him. *Shak.*

* PERSUADER. *n. ſ.* [from *perſuade.*] One who influences by perſuaſion; an importunate adviſer.—Himſelf was the author or principal *perſuader* of that counſel. *Bacon.*—

He ſoon is mov'd
By ſuch *perſuaders* as are held upright. *Dan.*
Hunger and thirſt at once,
Pow'rful *perſuaders!* *Milt.*

* PERSUASIBLE. *adj.* [*perſuaſibilis*, Lat. *perſuaſible*, Fr. from *perſuadeo*, Latin.] To be influenced by perſuaſion.—It makes us apprehend our own intereſt in that obedience, and makes us tractable and *perſuaſible. Gov. of the Tongue.*

* PERSUASIBLENESS. *n. ſ.* [from *perſuaſible.*] The quality of being flexible by perſuaſion.

(1.) * PERSUASION. *n. ſ.* [*perſuaſion*, Fr. from *perſuaſus*, Lat.] 1. The act of perſuading; act of influencing by expoſtulation; the act of gaining or attempting the paſſions.—

Thou haſt all the arts of fine *perſuaſion*

2. The ſtate of being perſuaded; opinion.—general *perſuaſion* of all men does ſo accou *Hooker.*—You are abus'd in too bold a *perſu Shak.*—When we have no other certainty of in the right, but our own *perſuaſions* that we this may often be but making one error the for another. *Gov. of the Tongue.*—The obe and the men of practice ſhall triumph over preſent imperfections, till *perſuaſion* paſs knowledge, and knowledge advance into rance. *South.*

(2.) PERSUASION, ART OF. See ORATO

* PERSUASIVE. *adj.* [*perſuaſif*, French; *perſuade.*] Having the power of perſuading ving influence on the paſſions.—In prayer, not ſo much reſpect what precepts art deliv touching the method of *perſuaſive* utteran the preſence of great men, as what doth m vail to our own edification. *Hooker.*—Let Mi reſume his farther diſcourſe, as well for th *ſuaſive* as for the conſult. *Bacon.*—Notwith ing the weight and fitneſs of the argume perſuade, and the light of man's intellect t this *perſuaſive* evidence with a ſuitable aſſe aſſent followed. *South.*

* PERSUASIVELY. *adv.* [from *perſuaſive* ſuch a manner as to perſuade.—

The ſerpent with me
Perſuaſively hath ſo prevail'd, that I
Have alſo taſted.

—Many who live upon their eſtates cann much as tell a ſtory, much leſs ſpeak clearly *perſuaſively* in any buſineſs. *Locke.*

* PERSUASIVENESS. *n. ſ.* [from *perſuaſive* Influence on the paſſions.—An opinion of the neceſſuineſs of the work being as neceſſary to a purpoſe of undertaking it, as either the a rity of commands, or the *perſuaſiveneſs* of p ſes. *Hammond.*

* PERSUASORY. *adj.* [*perſuaſorius*, from *perſuade.*] Having the power to perſu Neither is this *perſuaſory. Brown.*

(1.) * PERT. *adj.* [*pert*, Welſh; *pert*, Du *appert*, French.] 1. Lively; briſk; ſmart.—

Awake the *pert* and nimble ſpirit of mirth

On the tawny ſands and ſhelves,
Trip the *pert* fairies.

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From *pert* to ſtupid ſinks ſupinely down,
In youth a coxcomb, and in age a clown.
Spectator.

2. Saucy; petulant; with bold and garrulous loquacity.—All ſervants might challenge the ſame liberty, and grow *pert* upon their maſters. *Collier*—A lady bids me in a very *pert* manner mind my own affairs. *Addiſon.*—

Sometimes by a frown,
When they grew *pert*, to pull them down.
Swift.

(2.) PERT, in geography, a pariſh of Scotland, in Angus-ſhire, united to that of Logie. See Logie, N° 3. Its church is ſeated on the North Esk, near the Old North Water Bridge, 3 miles above Logie.

* *To* PERTAIN. *v. n.* [*pertineo*, Lat.] To belong; to relate.—Men hate thoſe that affect that honour by ambition, which *pertaineth* not to them. *Hayward.*—A cheveron or rafter of an houſe, a very honourable bearing, is never ſeen in the coat of a king, becauſe it *pertaineth* to a mechanical profeſſion. *Peacham.*

PERTELS, a town of Germany, in Auſtria; 2 miles N. of Bohmiſh Waidhofen.

* PERTEREBRATION. *n. ſ.* [*per* and *terebro*, Lat.] The act of boring through. *Ainſ.*

(1.) PERTH, or PERTHSHIRE, one of the largeſt counties in Scotland. It extends 77 miles in a ſtraight line, from Blairgowrie on the E. to the top of Ben-Loi on the W. and meaſures 68 miles between the Frith of Forth at Culroſs, on the S. and the boundary of the foreſt of Atholl on the N. where the Tilt riſes. It is bounded on the N. by a part of Inverneſs and Aberdeen ſhires; on the E. by Forfarſhire; on the SE. by the Frith of Tay, and the counties of Kinroſs and Fife; on the S. by the Forth, and the counties of Clackmannan and Stirling; on the SW. by Dumbartonſhire; on the W. by Argyllſhire; and on the NW. by Inverneſs-ſhire. It comprehends the diſtricts of Atholl, Braidalbin, Monteith, Stratherne, Stormont, Balquhidder, Gowrie, Rannoch, and PERTH PROPER. Its total contents are eſtimated at 5000 ſquare miles; which amount to 3,200,000 Scots acres, or 4,068,640 Engliſh acres. It is generally divided into the Highlands and Lowlands; the GRAMPIAN mountains form the line of diviſion between theſe. Some of the OCHIL and SIDLAW hills, although of great elevation, are ranked in the Lowland diviſion, becauſe the language and manners of the inhabitants differ from thoſe of the people in the Highland diſtrict, on the other ſide of the Grampians. The Highland diviſion contains 18 pariſhes; the Lowland 58; in all 76. The ſurface of this extenſive county is highly and beautifully diverſified: and perhaps no diſtrict of equal extent in the world exhibits ſcenes of more ſtriking and romantic magnificence, intermingled with nature in its moſt rugged form, as well as clothed in its moſt beautiful garb. The ſoil likewiſe conſiſts of all the varieties known in the kingdom; the carſe or rich loamy ſoil being moſt prevalent on the banks of rivers, and low grounds; and the ſandy and tilly ſoil being chiefly prevalent on the ſides of the hills. The climate is as various as the ſoil and ſurface. The hilly country abounds with paſture, on which are fed black cattle, horſes, ſheep, goats, and deer. The heaths, woods, and foreſts, are well ſtored with variety of game; the rivers teem with ſalmon, perches, and trouts. The valleys are in general warm, and the crops early, and all the uſual grain and roots are raiſed; but in rainy ſeaſons they are often much injured by the rivers overflowing their banks. The two principal rivers are the FORTH and the TAY: but there are many inferior rivers in the county; particularly the ALMOND, ALLAN, ERNE, Bran, Garry, Ehrick, Blane, ISLA, DOVAN, Teith, &c. (See theſe articles.) The principal lakes are Loch Tay, Loch Erne, Loch Dochart, Loch Ericht, Loch Catherine, Loch Rannoch, &c. Several of the higheſt mountains of Scotland are in this county; particularly Ben-Lawers, BEN-LEDI, BENMORE, SCHECHALLION, MORDUN, Ben-voirlich, &c. The proſpects from the tops of theſe mountains are in general grand, extenſive, and delightful; but the view from the top of MORDUN, in particular, is ſo exceedingly rich and various, that Mr Pennant ſtyled it, "The GLORY of SCOTLAND." Orchards and gardens are numerous, and abound with every kind of fruits, roots, and herbs found in S. Britain. There are ſeveral extenſive moſſes, particularly that of Kincardine. (See KINCARDINE, N° 6; and MOSS, § 7.) There are alſo numerous extenſive foreſts, abounding with oak, fir, elm, aſh, larix, and various other kinds of trees. Lime-ſtone, iron-ſtone, ſlates, and free-ſtone abound, as well as ſome lapis calaminaris; and coals are found in the S. parts of the county. Copper and lead mines have been diſcovered in ſome places; and STRATITES, or rock ſoap, is found in Monteith, 3 feet thick, and extending above 4 miles in length. Beſides PERTH, the capital, this county contains the royal borough of Culroſs, and the towns of Abernethy, Auchterderran, Dumblane, Crieff, Scone, Dunkeld, Coupar, Alyth and Longforgan; and above 60 conſiderable villages; as Callander, Blairgowrie, Kincardine, Muthil, Inchture, &c. Among the numerous ſeats of the nobility and gentry, which ornament this county, are Blair Caſtle, and Dunkeld Houſe, ſeats of the D. of Atholl; Tay-mouth, the E. of Braidalbin's ſeat; Duplin Caſtle, the ſeat of the E. of Kinnoul; Drummond Caſtle, the ſeat of the Perth family; the palace of Scone, the ſeat of Lord Mansfield; Ouchtertyre, the ſeat of Sir Patrick Murray; Duneira, the ſeat of Lord Viſc. Melville; Blair-Drummond, the ſeat of Mr Home-Drummond; Lawers, the ſeat of Col. Robertſon; Methven Caſtle, the ſeat of Lord Methven; Caſtle Huntly, the ſeat of George Paterſon, Eſq.; Lundie, the ſeat of Lord Viſc. Duncan; Caſtle-Gray and Kinfauns, ſeats of Lord Gray; Drimmie, the ſeat of Lord Kinnaird; Culroſs Abbey, a ſeat of the E. of Dundonald; Valleyfield, the ſeat of Sir Charles Preſton; Balgowan, the ſeat of Col. Graham; beſides Cardroſs, Gartmore, Kier, Lenrick, Caſtle Menzies, Delvin, Invercauld, Monzie, Gleneagles, Aberuchil, Roſſie, Freeland, Gaſk, Kilgraſton, St Martins, Blair-Gowrie, Errol Houſe, Pitfour, Seggieden, Murthly, and many others. The valued rent of this extenſive county is eſtimated at 339,818 l. 5s. 8d. Scots; the real rent at 230,900 l. ſterling. The total population, by the reports to Sir John Sinclair, between 1791 and 1798,

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1793, amounted to 133,274; and the increaſe, ſince 1755, to 14,371. The houſes and attire, even of the commonalty, are neat and decent; and every peaſant can produce a good quantity of linen, and great ſtore of blankets, made in his own family. Flax is reared by every huſbandman; and being dreſſed at home, is ſpun by the females of his family into thread for linen; this is woven by country weavers, of whom there is a great number through all the Low Country, and afterwards bleached or whitened by the good-wife and her ſervants; ſo that the whole is made fit for uſe at a very ſmall expence. They likewiſe waſh, card, ſpin, and weave their wool into tartan for plaids, kerſies, and coarſe ruſſet cloth, for common wearing, beſides great part of it which is knit into caps, ſtockings, and mitts. Plaids, made of the fineſt worſted, are worn either plain or variegated, as veils, by women of the lower, and even of the middle rank; nay, ſome years ago, ladies of faſhion wore ſilken plaids with an undreſs: this is a looſe piece of drapery, gathered about the head, ſhoulders, and waiſt, on which it is croſſed, ſo as to leave the hands at liberty, and produces a very good effect to the eye of the ſpectator. The Lowlanders of Perthſhire are civilized, hoſpitable, and induſtrious: the commerce of the country conſiſts chiefly in corn, linen, and black cattle. (See TRADE.) This county ſends one repreſentative to the imperial Britiſh parliament.

(2.) PERTH, a pariſh in the above county, of a ſemicircular form, the Tay, on the E. forming the diameter. It is about 4 miles long from N. to S. and 3 broad, from E. to W. It is ſeparated by the Tay from the pariſhes of Scone, Kinnoul, and Kinfauns, on the E. on the SE. it is bounded by that of Rhynd; on the S. by thoſe of Forteviot and Dumbarny; and on the W. by thoſe of Tibbermuir and Aberdalgie. The ſoil is partly loam and partly clay; and being very fertile, yields rich crops. The chief villages are Balhouſie, Pittheveleſs, Feu-houſe, Craigie, Tulloch, and Muirtown of Balhouſie. There are two eſtabliſhed miniſters beſides two helpers. The total population, in 1793, was eſtimated by the rev. J. Scott, at 19,871: the increaſe, ſince 1755, at 10,852.

(3.) PERTH, an ancient city of Scotland, capital of the above county and pariſh, as it formerly was of the whole kingdom. The name is derived by ſome from the Celtic, in which language *Peart* or *Peirt* is ſaid to ſignify *a finiſhed labour*, or *complete work*; but by others from its ancient name BERTHA, by the eaſy and natural change of B into P; which name in the German language ſignifies *illuſtrious* or *celebrated*. About the time of the Roman invaſion it was poſſeſſed by that tribe of the Picts called HORESTI, along with Fifeſhire, and that portion of Perthſhire, which lies S. of the Tay; though the rev. Dr Playfair places their territory E. of that river. (See HORESTI.) What kind of town Bertha was, previous to the arrival of the Romans, whether it was compactly built, or only a collection of ſtraggling huts, for the occaſional aſſembling of the people, cannot now be aſcertained. But it is generally admitted, that it was regularly built and fortified at the command of Julius Agricola, about A. D. 79, while he was proſecuting his conqueſts on the N. ſide of the Forth; and by him, as a memorial of his ſucceſs, named VICTORIA. And ample privileges are ſaid to have been beſtowed on it by the Romans. It is recorded by Tacitus, and quoted from him, by Mr Henry Adamſon, a native of Perth, and the ſon of Provoſt James Adamſon, in his poem entitled *The Muſes Threnodie*, that, "When Agricola and his army firſt ſaw the Tay, and the adjacent plain on which Perth is now ſituated, they cried out, *Ecce Tiber! Ecce Campus Martius!* "Behold the Tiber! Behold the Field of Mars!" comparing what they ſaw to their own river, and to the extenſive plain in the neighbourhood of Rome." Our poetical hiſtorian adds, that "Agricola pitched his camp in the middle of that field, on the ſpot where Perth ſtands. He propoſed to make it a winter camp; and afterwards built what he intended ſhould be a colonial town. He fortified it with walls, and with a ſtrong caſtle, and ſupplied the ditches with water, by an aqueduct from the Almond. Alſo, with much labour to his ſoldiers, and probably to the poor natives, a large wooden bridge was conſtructed over the river at Perth." "He was nearly 5 years eſtabliſhing the Roman power on the N. of the Forth, till he was recalled by Domitian."—Holinſhed ſays, that there was an ancient Britiſh temple built at Perth, in the field near the Tay, dedicated to Mars. Geoffrey of Monmouth ſays, in his legendary hiſtory, that it was built long before the birth of our Saviour, by a Britiſh king, who was the ſon of Regan the ſecond daughter of K. Lear; that he governed the whole iſland; and built other two temples, one to Mercury at Bangor, and the other to Apollo in Cornwall. Subterraneous relics of this ancient edifice were diſcovered 3 feet below the ſtreet, about 1786, when Col. Mercer of Aldie erected an elegant modern houſe on the ſite of the ancient temple. Two flat arches were diſcovered, under each of which was an apartment 26 feet long, by 14 broad; with walls 3½ feet thick. The town of Perth, as well as its ancient church and bridge built by the Picts, were dedicated by that people to St John, the tutelary ſaint of the town; whence ſome perſons gave it the name of ST JOHNSTOWN; but the rev. Mr Scott ſays, "it never was ſo called in any of the public writs, nor by the inhabitants in general." Fordun, Major, and other of our ancient hiſtorians, have recorded that in 1210, in the reign of K. William, a great inundation happened, which overflowed the town, carried off the large bridge of St John, overthrew an ancient chapel, a rampart, and many houſes; and that the king with his two ſons were obliged to make their eſcape in a boat. Upon this fact, Hector Boece built a fabulous ſtory, which is adopted by Buchanan himſelf, that the ancient town of Bertha having been thus ſwept away, king William built a *new* city, in a different ſituation where Perth now ſtands: but this fable has been ſufficiently refuted by Lord Hailes, Walter Goodall, and other eminent antiquaries; and there are many hundreds of charters ſtill extant, which prove, that the city of Perth exiſted, and was known by its preſent name, long before the date fabulouſly aſſigned for its erection by Boece. Between 1201 and 1459, no fewer than 14 national councils were held at Perth. In 1298, its walls were

were rebuilt by Edward I. of England, who made it the reſidence of his deputies; till they were expelled, after an obſtinate reſiſtance, by K. Robert Bruce. He attacked it in 1306, but was repulſed by the Earl of Pembroke, who ſallied out and defeated Bruce at Methven. In 1311, however, Robert, after a ſiege of ſix weeks, ſcaled the walls, took and burnt the town, and levelled the works. After the battle of Duplin, (ſee DUPLIN, N° 1.) Edward Baliol took and fortified it: but it was ſoon after ſurpriſed, by the Scots, and its fortifications razed. K. Edward III. took poſſeſſion of it, in 1335, made it his head quarters, and reſided in it for ſome time. The Engliſh hiſtorians have recorded, that John E. of Cornwall, brother to K. Edward III. died at Perth, in Oct. 1336; but they omit a ſingular circumſtance mentioned by Fordun, and quoted by the rev. Mr Scott, in his Statiſtical Account of Perth; viz. that he was "mortally wounded by the ſmall ſword or dagger of his brother," who had "remonſtrated to him upon the wanton cruelties he had committed upon his lands, in the weſtern counties, which he had laid waſte with fire and ſword, though the people had ſubmitted; burning the churches, and many perſons in them, who had fled thither, as to holy places of refuge;" &c. In 1339, Perth ſtood a long ſiege againſt the regent, Robert, but was taken by draining the ditch. In 1437, K. James I. was murdered, at the Black Friars monaſtery by Robert Graham, who gave him 28 wounds, and killed queen two defending him. The walls of the town were repaired by his ſon James II. In 1644, the town was ſeized by the Marq. of Montroſe, after the battle of Tibbermoor. In 1651, Cromwell took it; and the Commiſſioners built a citadel on the N. E. inch, capable of containing 500 men. In 1715, the Earl of Mar with the rebels, lay a conſiderable time in it, after the battle of Dumblane; (ſee DUMBLANE, N° 2.) but they were diſlodged by the D. of Argyll, and obliged to retreat northwards. In 1745, the rebels again obtained poſſeſſion of it; proclaimed James III; appointed new magiſtrates, and attempted to fortify it, but were ſoon compelled to retreat.—The firſt public revival of the reformed religion, in Scotland, was made at Perth; where the celebrated JOHN KNOX, preached a ſermon againſt idolatry, before ſeveral of the principal nobility, on Thurſday, 11th May, 1559. Immediately after ſermon, a popiſh prieſt having given ſome provocation, the people roſe, and broke down the images and altars. A weekly ſermon has been preached upon Thurſ. ever ſince. The city is populous and handſome; the ſtreets are well paved, and tolerably clean; and the houſes, though not ſtately, make a very decent appearance. Both the ſtreets and houſes are, for the greater part, diſpoſed on a regular plan. Several ſtreets run in a direction parallel with the river, as far as a right line can bear this relation to a curve line, nearly between E. and W. Theſe are again intercepted by others extending between N. and S. Many of the houſes in the ſtreet called the *Watergate*, ſeem to be very old. Towards the S. end of that ſtreet ſtands the famous palace of the Gowrie family. The houſe, and the very room, where the attempt of the Gowries to ſeize or aſſaſſinate the king was ſuppoſed to have been made, are now converted into barracks for a train of artillery; but the back ſtair, down which the Ruthvens were thrown, is pulled down. This ſtrange event, however magnified or atteſted by contemporary writers, is made up of ſo many improbabilities, or circumſtances for which no reaſon can be aſſigned, that Lord Hailes, in republiſhing the account printed by authority, 1600, preparatory to his further obſervations on it, ſeems juſtified in abſolutely diſcrediting a fact which paſſed for problematical with ſo many perſons at the very time. Dr Robertſon ſuppoſes it a plot of Elizabeth to get James into her power. Mr Cant having diſcuſſed the whole ſtory of the conſpiracy in his notes on *Adamſon's Muſe's Threnodie*, p. 185—261, concludes, "that as this would have been a very impolitic meaſure, the beſt way of accounting for it is by James's known hatred to the Puritans, and wiſh to get rid of two popular characters." The king had been ſeized and forced from his favourites by the father of the Ruthvens 12 years before (1582), and though he affected to forgive him, took the firſt opportunity to condemn and execute him as a traitor, in 1584. Mr Camden was too good a courtier to ſpeak with impartiality of any part of this weak monarch's conduct. The caſtle of Perth ſtood near the red bridge, which terminated the narrow ſtreet called *Skinner-gate*. At the end of the Caſtle-ſtreet another narrow ſtreet leads W. to the Black-friars called *Couvre feu-row*, where the curfeu bell was. The kings of Scotland before James II. were crowned at Scone, and reſided at Perth as the metropolis of the nation. The ancient kings of the Picts alſo often reſided in it. James II. reſided and was educated in the caſtle of Edinburgh, and was crowned there in 1437. The parliaments and courts of juſtice were removed from Perth to Edinburgh, but Perth kept its priority till 22 James III. 1482. The church in which the celebrated John Knox preached is ſtill ſtanding, and is now divided into three; named the *eaſt*, the *middle*, and the *weſt* kirks. The eaſt kirk is very handſomely modernized within. There is an old hoſpital, a conſiderable building, the founding of which is aſcribed to James VI. The town-houſe ſhuts up the E. end of the High-ſtreet, on the W. bank of the Tay. A monaſtery of Carthuſians was eſtabliſhed by King James I. of Scotland, who loſt his life on the ſpot, by the treachery of Athol and his accomplices. The king was buried in a very ſtately monument in this place, which was called *monaſterium vallis virtutis*, one of the moſt magnificent buildings in the kingdom, which with others was deſtroyed by the populace. The only remains of the magnificent Carthuſian priory are the carved ſtones with which the SE. porch of St John's church is built, now greatly decayed. The king's garment full of ſtabs is ſtill preſerved here. The town was anciently provided with a ſtone bridge over the river, which an inundation ſwept away; but a new and very fine one was built between 1766 and 1771, reckoned the moſt beautiful ſtructure of the kind in North Britain, (See BRIDGE, § 9, N° iii; and KINNOUL, N° 3.) The flouriſhing ſtate of Perth is owing to two accidents: 1. that many of Cromwell's wounded officers and ſoldiers choſe to reſide here, after he left the kingdom, who introduced a ſpirit of induſtry among

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among the people; 2. the long continuance of the earl of Marr's army here in 1715, which occasioned vaſt ſums of money to be ſpent in the place. But this town, as well as all Scotland, dates its proſperity from the year 1748; the government of this part of Great Britain having never been ſettled till that time. Perth is a royal borough, and 2d in dignity to the metropolis. It had a royal charter from king David I. who died in 1153, and which was renewed and confirmed by another from K. William I. in 1210, which is ſtill extant. Its delegates join with thoſe from Dundee, Forfar, Cupar of Fife and St Andrews, in electing a repreſentative in the Britiſh imperial parliament. It is governed by a provoſt, 4 bailies, (viz. 3 merchants and one tradeſman,) a dean of guild, treaſurer, and 19 counſellors. Beſides the old church above mentioned, which ſerves for three, it has an elegant chapel of eaſe, at the W. end of the High-Street, which is juſt finiſhing: alſo an elegant new epiſcopal chapel, elegant and capacious churches occupied by the Burgher and Antiburgher Seceders, and the Congregationaliſts; beſides a neat meeting-houſe poſſeſſed by the Independents, Glaſites or Sandemanians; and other ſmaller ones occupied by other ſects of Independents, Scots Epiſcopals, Cameronians, Baptiſts, Relief-Church Preſbyterians, Bereans, &c. There is alſo an Academy for Mathematics and other ſciences, which has long had a high reputation; a public Library, and an Infirmary or Hoſpital, which was built in 1750, on the ſite of the old Carthuſian Monaſtery, and is very well managed. A new ſet of ſchools are planned out and begun to be erected on the ſite of the old *Blackfriars*, a little N. of the Printing Office. Perth is greatly improved within theſe few years, by a number of new ſtreets and elegant new buildings: particularly *George Street*, which leads to the Bridge; *Charlotte Street* which leads from George Street to the North Inch; the *Creſcent*, an elegant row of new buildings in the form of a lunar creſcent, W. from Charlotte Street; *Roſe Terrace*, a new ſtreet running N. from the W. end of the Creſcent; *Methven Street*, leading N. from the New Chapel of Eaſe towards the *Barracks*, which are alſo to be numbered among the numerous modern improvements of Perth; which from the additional plans at preſent in contemplation, ſeem to be but in their infancy. An entire New Town is intended to be built on the ground named, from being anciently occupied by, the *Black Friars*. They were a branch of Dominicans; their monaſtery was founded in 1231 by Alexander II: that of the Carmelites or *White Friars*, in the reign of Alexander III: the *Charter Houſe* or *Carthuſian Monaſtery*, in 1429, by James I; and that of the *Franciſcans* or *Gray Friars*, by lord Oliphant in 1460; but all of them were aboliſhed at the Reformation. The population of Perth is eſtimated at about 11,000 and is ſaid to have increaſed one 3d ſince 1745. It has two weekly markets on Wed. and Friday, and 9 annual fairs in March, April, June, July, Aug. Sept. Oct. and two in Dec. Perth was famous for its trade ſo early as the beginning of the 13th century. Alexander Neckham an ancient Engliſh author, who died in 1227, mentions it in the following diſtich, quoted in Camden's *Britannia*:

"*Tranſis ample* TAI, *per rura, per oppida pl*
PERTH:
"*Regnum ſuſtentant illius urbis opes.*"

Which is thus tranſlated by Bp. Gibſon, in his tranſlation of Camden:

"Great TAY thro' PERTH, thro' towns, thro' country flies;
"PERTH the whole kingdom with her wealth ſupplies."

But as we wiſh to give a more particular account of its preſent trade, manufactures, fiſheries, &c. than has yet been laid before the public, we poſtpone it to the article TRADE. Perth is ſituated on the SW. bank of the Tay, 28 miles above its mouth; 40 W. of Edinburgh; 420 N. of London; 64 NE. of Glaſgow; 238 NE. of Dublin; 53 SW. of Montroſe; 82 SSW. of Aberdeen; and 23 W. of Dundee. Lon. 3. 27. W. Lat. 56. 22. N.

(4.) PERTH PROPER, a diſtrict in the above county, ſtretching 20 miles in length, and at ſome places 15 in breadth, is bounded on the NE. by the Carſe of Gowrie; on the E. by Angus; on the W. by Stratherne; on the N. by Athol; and on the S. by the Frith of Tay. This is a fruitful country, populous and well cultivated, abounding with gentlemen who poſſeſs opulent eſtates; with farmers who underſtand agriculture; and with manufacturers who turn their induſtry to great account.

PERTH AMBOY, a city of New Jerſey, according to Dr Brookes, but, of New York, according to Mr Cruttwell, in the county of Middleſex; ſeated on a neck of land between the Rariton and Arthur Kill Sound. Both agree that it lies open to Sandy Hook, and has one of the beſt harbours in the United States; but Mr Cruttwell makes it 18 miles from New York, and 168 from Philadelphia; whereas Dr Brookes and J. Walker make it only 25 miles from New York. Lon. 74. 50. 75. 0. W. Lat. 40. 35. N.

PERTHENSIS, *adj.* [mod. Lat.] Of or belonging to Perth.

(1.) PERTHES, a town of France, in the dep. of Seine and Marne; 6 miles SSW. of Melun.

(2.) PERTHES, a town of France, in the dep. of Upper Marne, 6 miles NW. of St Dizier.

PERTHSHIRE. See PERTH, N° 1.

PERTIGI, a town of Sardinia, 19 miles SE. of Caſtello Aragoneſe.

* PERTINACIOUS. *adj.* [from *pertinax.*] Obſtinate; ſtubborn; perverſely reſolute.—He never met with a man of more *pertinacious* confidence and leſs ab lities. *Walton.* 2. Reſolute; conſtant; ſteady.—Diligence is a ſteady, conſtant and *pertinacious* ſtudy. *South.*

* PERTINACIOUSLY. *adv.* [from *pertinacious.*] Obſtinately; ſtubbornly.—They deny the freedom to me, which they *pertinaciouſly* challenge to themſelves. *King Charles.*—Others have ſought to eaſe themſelves of all the evil of affliction by diſputing ſubtilly againſt it, and *pertinaciouſly* maintaining that afflictions are no real evils, but only in imagination. *Tillotſon.*—Metals *pertinaciouſly* reſiſt all tranſmutation; and though one would think they were turned into a different ſubſtance, yet they do but as it were lurk under a vizard. *R*

* PERTINACIOUSNESS. } *n. ſ.* [*pertinax*
* PERTINACITY. } Lat. from *pe*
natio

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serious.' 1. Obstinacy; stubbornness.—A very gross mistake, and if with *pertinacity* maintained, a capital errour. *Brown.* 2. Resolution; constancy.

* PERTINACY. *n. f.* [from *pertinax.*] 1. Obstinacy; stubbornness; persistency.—Their *pertinacy* such, that when you drive them out of one sect, they assume another. *Duppa.*—It holds true the *pertinacy* of ill fortune. *L'Estrange.* 2. Resolution; steadiness; constancy.—St Gorgonia grieved with passion and *pertinacy*, till she obtained her end. *Taylor.*

PERTINAX, an illustrious Roman emperor, who flourished about A. D 170. He was descended of a mean family; and like his father, who was either a slave or the son of a slave, he for some time followed the employment of making charcoal. His poverty did not, however, prevent him from receiving a liberal education. For some time he was employed in teaching the Greek and the Roman languages in Etruria. He next became a soldier, and by his valour rose to higher offices in the army, and was made consul by Marcus Aurelius. He was afterwards made governor of Mœsia, and at length of Rome itself. When Commodus was murdered, Pertinax was unanimously chosen to succeed to the imperial dignity. He accepted with reluctance; but his mildness, his economy and popularity, convinced the senate and people of the propriety of the choice. He ordered his name to be inscribed on any part of the imperial domains, insisting that they belonged to him but to the public. He melted the silver statues which had been raised to Commodus, and sold his concubines, horses, arms, and other ornaments of his pleasure. With the money thus raised, he abolished all the taxes which Commodus had imposed. These patriotic actions gained him the affection of the worthiest of his subjects; but when he attempted to introduce among the pretorian guards proper discipline, the minds of the soldiers were totally alienated. Pertinax was apprized of their mutinying, but instead of flying, he boldly addressed them, and had begun to retire, when one of the most furious advanced and darted a javelin at his head, exclaiming, *The soldiers send you this.* The rest followed the bloody example; and Pertinax, covering up his head, and calling upon Jupiter to revenge his death, was immediately dispatched. This abominable murder happened A. D. 103. It was no sooner known, than the enraged populace gathered from all quarters, and uttering dreadful menaces against the authors of his death, ran up and down the streets in quest of them; but the senate had not the courage to avenge it. Such was the lamented end of Pertinax, after he had reigned 66 years 7 months and 26 days; and reigned, according to Dio Cassius, only 87 days. His remains were interred with great pomp by Didius Julianus, his successor. Septimius Severus, who assumed the name of *Pertinax*, and punished with great severity all who had been accessary to his death; disbanded the prætorian guards, pronounced his panegyric, and caused him to be ranked among the gods, appointing his son chief priest. The day of his accession and his birthday were celebrated for many years after.

* PERTINENCE. } *n. f.* [from *pertinax*, Lat.]
* PERTINENCY. } Justness of relation to the matter in hand; propriety to the purpose; appositeness.—I have shewn the fitness and *pertinency* of the apostle's discourse. *Bentley.*

(1.) * PERTINENT. *adj.* [*pertinens*, Lat. *pertinent*. Fr.] Related to the matter in hand; just to the purpose; not useless to the end proposed; apposite; not foreign from the thing intended.—

My caution was more *pertinent*
Than the rebuke you give it. *Shak.*

—I set down what I thought *pertinent* to this business. *Bacon.*—Here I shall seem a little to digress, but you will by and by find it *pertinent*. *Bacon.*—He could find *pertinent* treatises of it in books. *Locke.* 2. Relating; regarding; concerning. In this sense the word now used is *pertaining.*—Men shall have just cause, when any thing *pertinent* unto faith and religion is doubted of. *Hooker.*

(2.) PERTINENT OF LANDS, in Scots law. See LAW, *Part* III, *Chap.* II, *Sect.* III.

* PERTINENTLY. *adv.* [from *pertinent.*] Appositely; to the purpose.—Be modest in the presence of thy betters, speaking little, answering *pertinently*. *Taylor.*—

* PERTINENTNESS. *n. f.* [from *pertinent.*] Appositeness. *Dict.*

* PERTINGENT. *adj.* [*pertingens*, Latin.] Reaching to; touching. *Dict.*

* PERTLY. *adv.* [from *pert.*] 1. Briskly; smartly.—The first are *pertly* in the wrong. 2. Saucily; petulantly.—

Yonder walls, that *pertly* front your town.
Shak.

When you *pertly* raise your snout,
This, among Hibernian asses,
For their wit, and humour passes. *Swift.*

* PERTNESS. *n. f.* [from *pert.*] 1. Brisk folly; saucinesss; petulance.—

Dullness delighted ey'd the lively dunce,
Rememb'ring she herself was *pertness* once. *Pope.*

2. Petty livelinesss; spritelinesss without force, dignity or solidity.—There is in Shaftesbury's works a lively *pertness*, and a parade of literature. *Watts.*

* PERTRANSIENT. *adj.* [*pertransiens*, Lat.] Passing over. *Dict.*

(1.) PERTUIS, a town of France, in the department of the Mouths of the Rhone, and late province of Provence, near the Durance, 9 miles N. of Aix, 12 SSE. of Apt, and 27 N. of Marseilles. Lon. 5. 36. E. Lat. 43. 44. N.

(2.) PERTUIS BRETON, a narrow strait of the sea, between the coast of France and the isle of Ré.

(3.) PERTUIS D'ANTIOCH, a strait between the isles of Oleron and Ré.

(4.) PERTUIS DE MAUMUSSON, a strait between the coast of France and the isle of Oleron, about $\frac{1}{4}$ of a league.

* *To* PERTURB. } *v. a.* [*perturbo*, Lat.]
* *To* PERTURBATE. } 1. To disquiet; to deprive of tranquility.—

Rest, rest, *perturbed* spirit. *Shak.*

His *perturbed* soul within him mourns. *Sandys.*

2. To disorder; to confuse; to put out of regularity.—They are content to suffer, rather than *perturb* the public peace. *King Charles.*—Sensuality *perturbing* the reasonable commands of virtue. *Brown.*—The accession or secession of bodies from

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the earth's face *perturb* not the equilibration of either hemisphere. *Brown.*

* PERTURBATION. *n. ſ.* [*perturbatio*, Lat. *perturbation*, Fr.] 1. Diſquiet of mind; deprivation of tranquillity.

Shame, and *perturbation*, and deſpair. *Milton.*—The ſoul doth manifeſt all its paſſions and *perturbations*. *Ray.* 2. Reſtleſſneſs of paſſions.—Natures, that have much heat, and great and violent deſires and *perturbations*, are not ripe for action, till they have paſſed the meridian. *Bacon.* 3. Diſturbance; diſorder; confuſion; commotion.—They did ever hang over the kingdom, ready to break forth into new *perturbations* and calamities. *Bacon.* 4. Cauſe of diſquiet.—

O poliſh'd *perturbation!* golden care! *Shak.* 5. Commotion of paſſions.—

Without *perturbation*, hear me ſpeak. *B. Jonſon.*

* PERTURBATOUR. *n. ſ.* [*perturbator*, Lat. *perturbateur*, Fr.] Raiſer of commotions.

* PERTUSED. *adj.* [*pertuſus*, Lat.] Bored; punched; pierced with holes.

* PERTUSION. *n. ſ.* [from *pertuſus*, Latin.] 1. The act of piercing or punching.—The manner of opening a vein, in Hippocrates's time, was by ſtabbing or *pertuſion*, as it is performed on horſes. *Arbuthnot.* 2. Hole made by punching or piercing.—An empty pot without earth in it, may be put over a fruit the better, if ſome few *pertuſions* be made in the pot. *Bacon.*

PERTUSSIS, *n. ſ.* [Latin.] Chincough. See MEDICINE, *Index.*

(1.) PERU, a country of South America, bounded on the N. by Popayan, E. by Amazonia, S. by Chili, and W. by the Pacific ocean; extending from 1° 40′ N. to 26° 10′ S. Lat. and between 56° and 81° Lon. W. being about 1800 miles long; but its greateſt breadth not exceeding 390.

(2.) PERU, BALSAM OF. See MYROXYLON.

(3.) PERU, DISCOVERY OF. This country was diſcovered by the Spaniards, and the firſt intelligence they had of it was from Nunez de Balboa, who had been raiſed to the government of Santa Maria in Darien, and who accidentally learned from a young cacique, that there was a country abounding with gold about 6 days journey to the S. Balboa ſet out on the 1ſt day of September 1513, about the time that the periodical rains began to abate. He had only 190 Spaniards along with him; but all of them were hardy veterans, inured to the climate of America, and very much attached to their leader: 1000 Indians attended to carry their proviſions and other neceſſaries; and they had along with them ſome fierce dogs. After a moſt painful journey of 25 days, he arrived at the South Sea; when he went into it up to the middle, and took poſſeſſion of the ocean in name of the king of Spain. That part of the South Sea, he called the *Gulf of St Michael*; which name it ſtill retains, and is ſituated E. of Panama. From ſome of the caciques he extorted proviſions and gold; others ſent him preſents voluntarily. He led back his followers to Santa Maria, to refreſh them after their fatigues; and ſent an account to the court of Spain of the important diſcovery he had made, demanding 1000 men, to conquer the country he had newly diſcovered. But here his hopes were blaſted, the king appointing Pedrarias Davila to ſupercede him, with the command of 15 ſtout veſſels, and 1200 ſoldiers. Balboa ſubmitted to the king's pleaſure, yet the new governor tried him for ſome pretended irregularities committed before his arrival, and fined him of almoſt all he was worth. In the mean time, the Spaniards, paying no regard to the treaties concluded by Balboa with the Indians, plundered and deſtroyed indiſcriminately, from the gulph of Darien to lake Nicaragua. The new comers had alſo arrived about the middle of the wet ſeaſon, when the exceſſive rains produced the moſt fatal diſeaſes. To this was joined an extreme ſcarcity of proviſions; ſo that in a month above 600 Spaniards periſhed. Balboa ſent remonſtrances to Spain againſt the new governor; on which the king appointed Balboa lieutenant-governor of the countries on the South Sea, with very extenſive authority; enjoining Pedrarias to ſupport him in his enterpriſes, and to conſult with him in every thing which he himſelf undertook. But this a reconciliation took place in appearance, ſo that Pedrarias agreed to give his daughter in marriage to Balboa, yet he ſoon after had him condemned and executed on pretence of diſloyalty. On the death of Balboa, farther diſcoveries were laid aſide for ſome time; but there were three perſons at Panama who determined to go in queſt of this country. Theſe were *Francis Pizarro*, *Diego de Almagro*, and *Hernand Luque*. Pizarro and Almagro were ſoldiers of fortune, and Luque was an eccleſiaſtic; who acted both as prieſt and ſchoolmaſter at Panama. Their confederacy was authoriſed by Pedrarias; and they engaged to employ his whole fortune in their adventure. Pizarro, being the leaſt wealthy, engaged to take upon himſelf the greateſt ſhare of the fatigue and danger, and to command the armament which was to go firſt upon the diſcovery. Almagro offered to conduct the ſupplies of proviſions and reinforcements of troops; and Luque was to remain at Panama, to ſuperintend affairs. However was carrying on for the general intereſt. In 1524, Pizarro ſet ſail from Panama with a ſmall veſſel of ſmall burthen, and 112 men; in the improper ſeaſon of the whole year, the periodical winds, which were then ſet in, being directly oppoſite. The conſequence was, that after being about for 70 days, with much danger and fatigue, he had advanced ſcarce as far to the SE. as a ſkilful navigator will now make in three days. He touched at ſeveral places of Terra Firma, and at the Pearl Iſlands, where he was found by Almagro, who had ſet out in queſt of him with a reinforcement of 70 men, and had ſuffered ſimilar diſtreſſes, beſides loſing an eye in a combat with the Indians. But the country of Popayan, ſhowing a better aſpect, and the inhabitants more friendly, they determined not to abandon their ſcheme. Almagro returned to Panama, but the bad accounts of the ſervice gave his countrymen ſuch an unfavourable idea of it, that Almagro could levy only 80 men. The diſaſters and diſappointments they met with, in this new attempt, were ſcarce inferior to thoſe they had already experienced, when part of the armament at laſt reached the bay of St Matthew on the coaſt of Qui

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and landed at Tacamez, where they met with a more fertile and champaign country than any they had yet ſeen; the natives alſo being more civilized, and clothed in cotton or woollen ſtuffs, adorned with gold and ſilver. But ſome of the adventurers had informed their friends of their many dangers and loſſes, which weighed ſo much with Peter de los Rios, the ſucceſſor of Pedrarias, that he prohibited the raiſing of new recruits, and even diſpatched a veſſel to bring home Pizarro and his companions from the iſland of Gallo. Almagro and Luque adviſed Pizarro not to relinquiſh an enterpriſe on which they had built all their hopes. He therefore refuſed to obey the governor's orders, and intreated his men not to abandon him. But the calamities to which they had been expoſed had ſuch an effect, that when he drew a line upon the ſand with his ſword, telling ſuch as wiſhed to return, that they might paſs over it, only 13 remained with him. Pizarro with his little troop now fixed their reſidence on the iſland of Gorgona, where they continued 5 months in the moſt unwholeſome climate imaginable, when a veſſel arrived from Panama, in conſequence of the ſolicitations of Almagro and Luque; who had prevailed on the governor to ſend a ſmall veſſel to their relief. They therefore ſailed to the SE. and in 20 days diſcovered the coaſt of Peru. They arrived at Tumbez, remarkable for its ſtately temple, and a palace of the Incas or ſovereigns of the country. Here they found the reports concerning the riches of the country were true; not only ornaments and ſacred veſſels being made of gold and ſilver, but even thoſe as were for common uſe. Yet to attempt the conqueſt of this opulent empire with their ſmall force, would have been madneſs; they contented themſelves with viewing it, procuring ſome of the beaſts called *Llamas*, ſome veſſels of gold and ſilver, and two young men, whom they inſtructed in the Caſtilian language. With theſe Pizarro arrived at Panama in 1527.

(4) PERU, HISTORY OF, TILL THE MURDER OF ATABALIPA. The empire of Peru is ſaid to have been originally poſſeſſed by independent tribes, reckoned among the moſt ſavage in America; living more like wild beaſts than men. For ſeveral ages they lived in this manner, when there appeared on the banks of a lake called *Titiaca*, a man and woman of majeſtic form, and clothed in decent garments. They declared themſelves to be the children of the ſun, ſent by their beneficent parent to inſtruct and reclaim mankind. The names of theſe extraordinary perſonages were *Manco Capac* and *Mama Ocla*. At their perſuaſion ſeveral of the diſperſed ſavages united, and, having their commands as heavenly injunctions, followed them to Cuzco, where they ſettled, and began to build a city. Manco Capac inſtructed the men in all the uſeful arts; while Mama Ocla taught the women to ſpin and weave; after which Manco framed a code of laws for his new ſtate. Thus, according to the Indian tradition, was founded the empire of the Incas, or lords of Peru. At firſt its extent was ſmall, reaching not above 8 leagues from Cuzco. Within theſe limits, however, Manco exerciſed the moſt perfect deſpotiſm, and the ſame was maintained by his ſucceſſors, all of whom were not only obeyed as monarchs, but reverenced as deities. Their blood was held to be ſacred, and, by prohibiting intermarriages with the people, was never contaminated. The family, thus ſeparated from the reſt of the nation, was diſtinguiſhed by peculiarities in dreſs and ornaments, which it was unlawful for others to aſſume. When the Spaniards firſt viſited this country, they found it agitated by a civil war. Huana Capac, the 12th monarch from the founder, was on the throne; a prince no leſs conſpicuous for his abilities in war than for his pacific virtues. By him the kingdom of Quito was ſubdued, which almoſt doubled the extent of the Peruvian empire. Huana married the daughter of the conquered monarch, by whom he had a ſon named *Atahualpa*, or *Atabalipa*, to whom, at his death in 1529, he left the kingdom of Quito, beſtowing the reſt of his dominions upon Huaſcar, his eldeſt ſon, by a mother of the royal race. This produced a civil war, in which Atabalipa proved victorious, and afterwards, to ſecure himſelf on the throne, put to death all the deſcendants of Manco; but he ſpared the life of his rival Huaſcar, who was taken priſoner, that, by iſſuing orders in his name, he might eſtabliſh his own authority. This conteſt had ſo much engaged the attention of the Peruvians, that they never attempted to check the progreſs of the Spaniards. The firſt intelligence Pizarro received of it was a meſſage from Huaſcar, aſking his aſſiſtance againſt Atabalipa. Pizarro therefore determined to puſh forward, while inteſtine diſcord put it out of the power of the Peruvians to attack him with their whole force. Leaving a garriſon in St Michael, he began his march with only 62 horſemen, and 102 foot. He proceeded to Caxamalca, where Atabalipa was encamped, and was met by an officer with a valuable preſent from the Inca, accompanied with a proffer of his alliance. Pizarro pretended to come as the ambaſſador of a very powerful monarch, who wiſhed to aid him againſt his enemies. As the object of the Spaniards in entering their country was altogether incomprehenſible to the Peruvians, they had formed various conjectures concerning it, whether their new gueſts were beings of a ſuperior nature, who had viſited them from ſome beneficent motive, or formidable avengers of their crimes, and enemies to their repoſe and liberty. Pizarro's declaration of his pacific intentions, removed all the Inca's fears. The Spaniards were thus allowed to march acroſs the ſandy deſert between St Michael and Motupe, and through a defile in the mountains ſo narrow and inacceſſible, that a few men might have defended it. As they approached to Caxamalca, Atabalipa ſent them preſents of ſtill greater value. On entering Caxamalca, Pizarro took poſſeſſion of a large court, on one ſide of which was a palace of the Inca, and on the other a temple of the ſun, ſurrounded with a ſtrong rampart. When he had poſted his troops in this advantageous ſtation, he diſpatched Hernando Soto, and his brother Ferdinand, to the camp of Atabalipa, to deſire an interview with the Inca. They were treated with all the reſpectful hoſpitality uſual among the Peruvians, and Atabalipa promiſed to viſit the Spaniſh com-

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manner next day in his quarters. The decent deportment of the Peruvian monarch, the order of his court, and the reverence with which his ſubjects obeyed his commands, aſtoniſhed the Spaniards. But their eyes were more powerfully attracted by the vaſt profuſion of wealth which they obſerved in his camp. On their return to Caxamalca, they gave ſuch a deſcription of it to their countrymen, as confirmed Pizarro in a reſolution which he had already taken, as daring as it was perfidious. He determined to avail himſelf of Atabaliba's unſuſpicious ſimplicity, and to ſeize his perſon during the interview. He divided his cavalry into 3 ſquadrons, under his brothers Ferdinand, Soto, and Benalcazar; his infantry was formed into one body, except 20 of moſt tried courage, whom he kept near his own perſon; the artillery, conſiſting of two field-pieces, and the croſs-bow men, were placed oppoſite to the avenue by which Atabaliba was to approach. Early in the morning the Peruvian camp was all in motion. But as Atabaliba was ſolicitous to appear with the greateſt ſplendour and magnificence in his firſt interview with the ſtrangers, the preparations were ſo tedious, that the day was far advanced before he began his march. At length the Inca approached. Firſt of all appeared 400 men in an uniform dreſs, as harbingers. He himſelf, ſitting on a throne, almoſt covered with gold, ſilver, and precious ſtones, was carried on the ſhoulders of his principal attendants. Behind him came his chief officers. Several bands of ſingers and dancers accompanied this cavalcade; and the whole plain was covered with troops, amounting to above 30,000 men. As the Inca drew near the Spaniſh quarters, father Vincent Valverede, chaplain to the expedition, advanced with a crucifix in one hand, and a breviary in the other, and in a long diſcourſe explained to him the doctrine of the creation, the fall of Adam, the incarnation, the ſufferings and reſurrection of Jeſus Chriſt, the appointment of St Peter as God's vicegerent on earth, the tranſmiſſion of his apoſtolical power by ſucceſſion to the popes, the donation made to the king of Caſtile by pope Alexander of all the regions in the New World; and required Atabalipa to embrace the Chriſtian faith, to acknowledge the juriſdiction of the pope, and to ſubmit to the king of Caſtile as his lawful ſovereign; promiſing, if he complied, that the Caſtilian monarch would protect his dominions, and permit him to continue in his royal authority; but if he ſhould impiouſly refuſe to obey this ſummons, he denounced war againſt him in his maſter's name, and threatened him with the moſt dreadful effects of his vengeance. This ſtrange harangue, unfolding deep myſteries, and alluding to unknown facts, of which no power of eloquence could have conveyed a diſtinct idea to an American, was ſo lamely tranſlated by an unſkilful interpreter, that it was incomprehenſible to Atabalipa. But ſome parts in it, of obvious meaning, filled him with aſtoniſhment and indignation. His reply, however, was temperate. He ſaid that he was lord of his own dominions by hereditary right; that he could not conceive how a foreign prieſt ſhould pretend to diſpoſe of territories which did not belong to him: that he, being the rightful poſſeſſor, refuſed to confirm it; that he would not forſake the ſervice of the Sun, the immortal divinity whom he revered, to worſhip the God of the Spaniards who was ſubject to death; that with reſpect to other matters, as he had never heard of them before, he deſired to know where he had learned things ſo extraordinary. "In this book," anſwered Valverede, reaching out to him his breviary. The Inca opened it, and turning over the leaves, lifted it to his ear: "This," ſays he, "is ſilent; it tells me nothing;" and threw it with diſdain to the ground. The enraged monk, running to his countrymen, cried out, "To arms, Chriſtians, to arms! the word of God is inſulted; avenge this profanation on theſe impious dogs." Pizarro immediately gave the ſignal of aſſault. At once the martial muſic ſtruck up, the cannon and muſkets began to fire, the horſe ſallied out fiercely, the infantry ruſhed on ſword in hand. The Peruvians, aſtoniſhed at the unexpected attack, fled with univerſal conſternation, without attempting to defend themſelves. Pizarro, at the head of his choſen band, advanced directly towards the Inca; and though his nobles crowded around him with zeal, and fell in numbers at his feet, the Spaniards ſoon penetrated to the royal ſeat; and Pizarro ſeizing the Inca by the arm, dragged him to the ground, and carried him priſoner to his quarters. The fate of the monarch increaſed the precipitate flight of his followers. The Spaniards purſued them towards every quarter, and, with deliberate and unrelenting barbarity, continued to ſlaughter the wretched unreſiſting fugitives. Above 4000 Peruvians were killed. Not a ſingle Spaniard fell, nor was any wounded but Pizarro himſelf ſlightly. The plunder taken was immenſe, but the Spaniards were ſtill unſatisfied; which being obſerved by the Inca, he endeavoured to apply himſelf to their ruling paſſion, avarice, to obtain his liberty: therefore offered ſuch a ranſom as quite aſtoniſhed them. The apartment in which he was confined was 22 feet in length, and 16 in breadth; and all this ſpace he engaged to fill with veſſels of gold as high as he could reach. This propoſal was eagerly caught by Pizarro, and a line was drawn upon the walls to mark the ſtipulated height. Atabalipa, anxious for his liberty, immediately diſpatched meſſengers into all parts of the empire, to collect the immenſe quantity of gold which he had promiſed; and though the unfortunate monarch was now in the hands of his enemies, ſuch was the veneration which his ſubjects had for him, that his orders were obeyed with as great alacrity as if he had been at full liberty. In a ſhort time Pizarro received intelligence that Almagro was arrived at St Michael's with a reinforcement. This was a matter of ſmall vexation to Atabalipa, who now conſidered his kingdom as in danger of being totally overrun by theſe ſtrangers. For this reaſon he ordered to put his brother Huaſcar to death, leſt he ſhould join againſt him. In the mean time, the Indians daily arrived at Caxamalca with vaſt quantities of treaſure; the ſight of which ſo much inflamed the Spaniards, that they inſiſted upon a immediate diviſion: and this being complied with

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there fell to the share of each horseman 8000 pe-
ſos, worth as many pounds ſterling, and half as
much to each foot ſoldier, Pizarro and his offi-
cers receiving ſhares proportionable to their dig-
nity. A 5th part was reſerved for the emperor,
together with ſome veſſels of curious workman-
ſhip. After this, Atabalipa was very importunate
with Pizarro to recover his liberty; but the Spa-
niard, with unparalleled treachery and cruelty,
had now determined to put him to death. But,
to give ſome ſhow of juſtice to this deteſtable ac-
tion, Pizarro inſtituted a court of judicature for
trying him. He appointed himſelf and Almagro,
with two aſſiſtants, as judges; an attorney-general
to carry on the proſecution in the king's name;
counſellors to aſſiſt the priſoner in his defence;
and clerks to record the proceedings. Before
this ſtrange tribunal, a charge was exhibited ſtill
more amazing. That Atabalipa, though a baſ-
tard, had uſurped the regal power; that he had
killed his brother and lawful ſovereign to death;
that he was an idolater, and had offered up hu-
man ſacrifices: that he had a great number of
concubines, &c. On theſe heads they proceed-
ed to try the ſovereign of a great empire, over
whom they had no juriſdiction. To all theſe
charges the Inca pleaded not guilty. He called
upon the ſun and earth to witneſs the integrity of his
conduct, and how faithfully he had performed
his engagements, and the perfidy of his accuſers.
He offered to be ſent over to Spain to take his
trial before the emperor; but no regard was paid
to his entreaties. He was condemned to be burnt
alive; which cruel ſentence was mitigated to
that of ſtrangling; and the unhappy monarch was exe-
cuted without mercy. Hideous cries were ſet
up by his women as the funeral proceſſion paſſed
through their apartment; many offered to bury them-
ſelves alive with him; and on being hindered,
killed themſelves out of grief. The whole
city of Caxamalca was filled with lamentations,
which quickly extended over the whole king-
dom.

PERU, HISTORY OF, TO ITS FINAL SUB-
JECTION BY THE SPANIARDS. The murder of
Atabalipa did no ſervice to the Spaniards. Friends
and enemies accuſed them of inhumanity and trea-
chery. Loads of gold that were coming to Cax-
amalca by order of the deceaſed Inca were now
ſeized; which was the firſt unfortunate conſe-
quence of their late iniquitous conduct. The two
nations of Indians united againſt Pizarro; and
not only the Spaniards not only exclaimed againſt
the cruelty of the judges, but would even have
puniſhed, had not a ſenſe of the impending dan-
ger kept them quiet. At Cuzco the friends of
Atabalipa proclaimed Manco Capac the legitimate
ſucceſſor of the late Inca. Pizarro ſet up Taparpa,
brother of Atabalipa, as emperor. Immediately
they marched for Cuzco. An army of Indians op-
poſed their progreſs, but the Spaniſh cavalry bore
down every thing before them. The conquerors
found a great booty; and Pizarro diſpatched Al-
varado to reduce Cuzco, while he himſelf found-
ed a colony in Xauna. Ferdinand Soto was
ſent with 60 horſe to Cuzco, to clear the
way for the remainder of the army. Mean time
Manco died, and as the Spaniards ſet up no per-
ſon in his room, the title of Manco Capac was
univerſally acknowledged. A new ſupply of ſol-
diers arriving from Spain, Benalcazar, governor
of St Michael, undertook an expedition againſt
Quito, where Atabalipa had left the greateſt part
of his treaſure. He accompliſhed his purpoſe
with difficulty, but found that the inhabitants had
carried off all their gold and ſilver. About the
ſame time Alvarado governor of Guatimala, in-
vaded Chili. In this expedition his troops endur-
ed ſuch hardſhips, and ſuffered ſo much from the
cold among the Andes, that a fifth part of the men
and all the horſes died, and the reſt were ſo much
diſpirited and emaciated, that they became quite
unfit for ſervice. Alvarado then returned to his
government, but moſt of his followers enliſted
under Pizarro. In the mean time Ferdinand
Pizarro had landed in Spain, where he produced
ſuch immenſe quantities of gold and ſilver as quite
aſtoniſhed the court. The general's authority
was confirmed with new powers, Almagro had
the title of *governor* conferred upon him, with
juriſdiction over 200 leagues of a country lying S.
of the province allotted to Pizarro. Pizarro
then ſettled the internal policy of his province,
and removed the ſeat of government from Cuz-
co to Lima. Mean time Almagro had ſet out
on his expedition to Chili; (See CHILI, § 2.) Pi-
zarro encouraged his moſt diſtinguiſhed officers to
invade thoſe provinces which had not yet been
viſited by the Spaniards. No ſooner did Manco
Capac perceive the Spaniards thus dividing their
forces, then he ſeized the opportunity of making
one vigorous effort to redreſs the wrongs of his
countrymen, and expel the cruel invaders.
Though ſtrictly guarded by the Spaniards, he
found means to communicate his intentions to the
chief men of his nation, whom he joined in 1536,
under pretence of celebrating a feſtival which he
had obtained liberty from Pizarro to attend. U-
pon this an army of 200,000 men collected. Ma-
ny Spaniards were maſſacred, and ſeveral detach-
ments cut off; and while this vaſt army laid ſiege
to Cuzco, another formidable body inveſted Lima,
and kept the governor ſhut up. The greateſt ef-
fort, however, was made againſt Cuzco, which
was defended by Pizarro and his two brothers,
with only 170 men. The ſiege laſted 9 months;
many Spaniards were killed; among whom was
John Pizarro, the general's brother, and the beſt
of them all. The reſt were reduced to the moſt
deſperate ſituation, when Almagro appeared near
Cuzco. He had now received the royal patent,
creating him governor of Chili. On his arrival
his aſſiſtance was ſolicited by both parties. The
Inca made many advantageous propoſals; but at
length attacked him in the night by ſurpriſe with
a great body of choſen troops. But the Spaniſh
valour and diſcipline prevailed, and the Peruvians
were repulſed with ſuch ſlaughter, that the re-
mainder diſperſed, and Almagro advanced to Cuz-
co. Pizarro's brother took meaſures to oppoſe his
entrance; but while prudence reſtrained both
parties from entering into a civil war; each leader
endeavoured to corrupt the followers of his anta-
goniſt. In this Almagro had the advantage; and
ſo many of Pizarro's troops deſerted in the night,
that Almagro was encouraged to advance towards
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the city, where he surprised the centinels; and investing the house where the two brothers were lodged, he compelled them, after an obstinate defence, to surrender; and Almagro's authority over Cuzco was immediately recognized. But Francis Pizarro, having dispersed the Peruvians who invested Lima, and received considerable reinforcements from other provinces, ordered 500 men under Alonso de Alvarado to march to Cuzco to relieve his brothers. Almagro attacked him by surprise, defeated and dispersed his army, taking himself and some of his principal officers prisoners. This victory seemed decisive; and Almagro was advised to make it so by putting to death Gonzalo and Ferdinand Pizarro, and Alvarado. This advice, however, he declined from humanity; and instead of marching directly against Pizarro, he retired to Cuzco; which gave his adversary time to recollect himself, and Almagro again suffered himself to be deceived by pretended offers of pacification. The negociations were protracted for several months; Gonzalo Pizarro and Alvarado bribed the soldiers who guarded them, and escaped with 60 of Almagro's men. The general next proposed that all disputes should be submitted to their sovereign; and on this principle, Almagro released those whom Pizarro wanted; which he had no sooner done, than the latter set out for Cuzco with an army of 700 men, to which Almagro had only 500 to oppose; advanced without obstruction, and an engagement soon followed in which Almagro was defeated and taken prisoner. The conquerors behaved with great cruelty, massacring a great number of officers. The Indians had assembled in great numbers to see the battle, with an intenton to join the vanquished; but were so much overawed by the Spaniards, that they retired after the battle was over, and thus lost the only opportunity they ever had of expelling their tyrants.—Almagro was at length tried, and condemned by Pizarro; and he was first strangled in prison, and then beheaded. He left one son by an Indian woman whom he appointed his successor. As during these dissensions all intercourse with Spain ceased, it was some time before the accounts of the civil war were received at court. The first intelligence was given by some of Almagro's soldiers, who had left America on the ruin of their cause; and they did not fail to represent the injustice and violence of Pizarro in their proper colours, which strongly prejudiced the emperor against him. In a short time, however, Ferdinand Pizarro arrived, and endeavoured to give matters a new turn. The emperor was uncertain which of them to believe, but resolved to send over one he could trust to investigate the matter. Mean time, Ferdinand was arrested at Madrid, and confined to prison, where he remained 20 years. The person nominated to this important trust was Christopher Vaca Di Castro. While Di Castro was preparing for his voyage, Pizarro, considering himself as the unrivalled master of Peru, proceeded to parcel out its territories among the conquerors; and had this division been made with any degree of impartiality, the extent of country which he had to bestow was sufficient to have gratified his friends, and to have gained his enemies. But Pizarro conducted this transaction, with the illiberal spirit of a party leader. Large districts, in parts of the countr most cultivated and populous, were set apart his own property, or granted to his brothers, h adherents, and favourites. To others, lots l valuable and inviting were assigned. The follo ers of Almagro, amongst whom were many the original adventurers to whose valour Pizar was indebted for his success, were totally excl ed. They therefore murmured in secret, a meditated revenge. Rapid as the progress of t Spaniards in South America had been since P zarro landed in Peru, their avidity of domini was not yet satiated. The officers to whom F dinand Pizarro gave the command of differ detachments, penetrated into several new pro ces; and though exposed to great hardships in cold regions of the Andes, and amidst the wo and marshes, they made considerable discov and conquests. Peter de Valdivia re-assumed magro's scheme of invading Chili; and made progress in the conquest of the country, tha founded the city of St Jago. But the enter of Gonzales Pizarro was the most remark He set out from Quito at the head of 340 sold near one half of whom were horsemen, with Indians. Excess of cold and fatigue proved to the greater part of these last. The Spa tho' more robust, suffered considerably, but they descended into the low country, their tress increased. During two months, it rain cessantly, without any interval of fair weath dry their clothes. The vast plains upon they were now entering, either without in tants, or occupied by the rudest and least trious tribes in the New World, yielded subsistence. They could not advance a step through woods, or marshes. Such incessan and scarcity of food, would have dispirited troops. But the fortitude and perseverance Spaniards were insuperable. They persi struggling on, until they reached the banks Napo, one of the large rivers which run in Maragnon. There, with infinite labour, they a bark, which was manned with 50 soldiers, Francis Orellana. The stream carried them with such rapidity, that they were soon far of their countrymen, who followed slowly by At this distance from his commander Orel formed the scheme of distinguishing himse following the course of the Maragnon until ed the ocean, and by surveying the vast through which it flows. This scheme was as it was treacherous. For, if he violated hi to his commander, and abandoned his fello diers in a pathless desert, his crime is som balanced by the glory of having ventured navigation of near 2000 leagues, through un nations, in a vessel hastily constructed with timber, and by very unskilful hands, witho visions, without a compass, or a pilot. H courage and alacrity supplied every defect. mitting himself fearlessly to the guidance stream, the Napo bore him along to the S he reached the great channel of the Mar He sometimes seized by force the provisions fierce savages seated on its banks, and som procured a supply of food by a friendly

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course. After a long series of dangers and distresses, which he encountered with amazing magnanimity, he reached the ocean where new perils awaited him. These he likewise surmounted, and got late to the Spanish settlement in the island Cubagua; whence he sailed to Spain. The vanity natural to travellers who visit regions unknown to the rest of mankind, prompted him to mingle an extraordinary proportion of the marvellous in the narrative of his voyage. He pretended to have discovered nations so rich, that the roofs of their temples were covered with plates of gold; and described a republic of AMAZONS so warlike and powerful, as to have extended their dominion over a considerable tract of the fertile plains which he had visited; fables hardly yet exploded. The voyage, however, deserves to be recorded, not only as one of the most memorable occurrences in that adventurous age, but as the first event that led to any certain knowledge of those immense regions that stretch E. from the Andes to the ocean. No words can describe the consternation of Pizarro, when he did not find the bark at the confluence of the Napo and Maragnon, where he had ordered Orellana to wait for him. But imputing his absence from the place of rendezvous to some unknown accident, he advanced above 50 leagues along the banks of the Maragnon, expecting every moment to see the bark appear with a supply of provisions. At length he came up with an officer whom Orellana had left to perish in the desert, because he had remonstrated against his perfidy. From him he learned the extent of Orellana's treason, and his followers perceived at once their own desperate situation. The spirit of the stoutest veteran sunk within him; and all demanded to be led back instantly. Pizarro was now 800 miles from Quito; and in that long march the Spaniards encountered hardships greater than they had endured in their progress outward. They were compelled them to feed on roots and berries, to eat all their dogs and horses, to devour even loathsome reptiles, and even to gnaw the leather of their saddles and sword belts: 4000 Indians and 210 Spaniards, perished in this wild and fatal expedition, which continued near two years; and as 50 men were aboard the bark with Orellana, only 80 got back to Quito. These were not like savages, and so emaciated with famine and worn out with fatigue, that they had more the appearance of spectres than of men. But Pizarro, on entering Quito, received accounts of a famine that threatened calamities more dreadful than those through which he had passed. At the same time that his brother made the partial conquests above-mentioned, the administration of Almagro no longer entertained any hope of bettering their condition. Great numbers in despair resorted to Lima, where the house of Almagro was always open to them: and the whole portion of his father's fortune, which he had enjoyed, was spent in affording them subsistence. The warm attachment with which every soldier who served under the elder Almagro devoted himself to his interests, was transferred to the son, who was now grown up to manhood, and possessed all the qualities which captivate the affections of soldiers. Of a graceful appearance, dexterous at all martial exercises, bold, open, generous, he seemed to be formed for command; and the accomplishments he had acquired heightened the respect of his followers. The Almagrians, looking up to him as their head, were ready to undertake any thing for his advancement. Nor was affection for Almagro their only incitement; they were urged on by their own distresses. Many of them, destitute of common necessaries, and weary of loitering away life, a burden to their chief, began to deliberate how they might be avenged on the author of all their misery. Their frequent cabals did not pass unobserved; and the governor was warned to be on his guard against men who meditated some desperate deed, and had resolution to execute it. But, either from his native intrepidity, or from contempt of persons whose poverty rendered their machinations of little consequence, he disregarded the admonitions of his friends. This gave the Almagrians full leisure to digest and ripen their scheme; and John de Herrada, an officer of great abilities, who had the charge of Almagro's education, took the lead in their consultations. On Sunday, the 26th of June, at mid-day, Herrada, at the head of 18 of the most determined conspirators, sallied out of Almagro's house in armour; and drawing their swords, as they advanced hastily towards the governor's palace, cried out, "Long live the king, but let the tyrant die." Tho' Pizarro, was usually surrounded by a numerous train of attendants, yet as he was just risen from table, and most of his domestics had retired to their own apartments, the conspirators were at the bottom of the staircase, before a page in waiting could give the alarm. The governor, whom no form of danger could appal, starting up, called for arms, and commanded Francis de Chaves to make fast the door. But that officer running to the top of the staircase, wildly asked the conspirators what they meant? Instead of answering, they stabbed him to the heart, and burst into the hall. A few drawing their swords, followed Pizarro into an inner apartment. The conspirators rushed forward after them. Pizarro, with no other arms than his sword and buckler, defended the entry; and, supported by his half-brother Alcantara and his friends, maintained the unequal contest with the vigour of a youthful combatant. But the armour of the conspirators protected them, while every thrust they made took effect. Alcantara fell dead at his brother's feet; his other defendants were mortally wounded; and the governor no longer able to parry the many weapons furiously aimed at him, received a deadly thrust full in his throat, sunk, and expired. As soon as he was slain, the assassins ran out into the streets, and waving their bloody swords, proclaimed the death of the tyrant. Above 200 of their associates having joined them, they conducted young Almagro in solemn procession through the city; and assembling the magistrates and principal citizens, compelled them to acknowledge him as lawful successor to his father in his government. The palace of Pizarro, with the houses of his adherents, were pillaged by the soldiers. The new governor marched

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ed into the heart of the empire, to reduce ſuch places as refuſed to acknowledge his authority. A multitude of ruſſians joined him on his march. His army breathed nothing but vengeance and plunder: every thing gave way before it. If the military talents of the general had equalled the ardour of his troops, the war had ended here. Unhappily for Almagro, he had loſt his conductor John de Herrada. His inexperience made him fall into the ſnares that were laid for him by Peter Alvares, who had put himſelf at the head of the oppoſite party. In the mean time, Vaca Di Caſtro, who had been ſent from Europe to try the murderers of old Almagro, arrived at Peru. As he was appointed to aſſume the government in caſe Pizarro was no more, all who had not ſold themſelves to the tyrant, haſtened to acknowledge him. Caſtro inſtantly led them againſt the enemy. The armies engaged at Chapas on the 16th Sept. 1542, and fought with inexpreſſible obſtinacy. Victory decided in favour of Caſtro. Thoſe among the rebels who were moſt guilty, dreading tortures, provoked the conquerors to murder them, crying out *It was I who killed Pizarro.* Their chief was taken priſoner and died on the ſcaffold. While theſe ſcenes of horror were tranſacting in America, the Spaniards in Europe were employed in finding out expedients to terminate them; though no meaſures had been taken to prevent them. Peru had only been made ſubject to the audience of Panama, which was too remote. A ſupreme tribunal was eſtabliſhed at Lima for the diſpenſation of juſtice, with authority to enforce and reward a due obedience to the laws. Blaſco Nunez Vela, who preſided in it as viceroy, arrived in 1544, attended by his ſubordinates in office, and found every thing in the moſt dreadful diſorder. To put an end to theſe tumults which now ſubſiſted, would have required a profound genius, and many other qualities which are ſeldom united. Nunez had none of theſe advantages. He indeed poſſeſſed probity, firmneſs, and ardour; but he had taken no pains to improve theſe gifts. With theſe virtues, which were almoſt defects in his ſituation, he began to fulfil his commiſſion, without regard to places, perſons, or circumſtances. Contrary to the opinion of all intelligent perſons, who wiſhed that he ſhould wait for freſh inſtructions from Europe, he publiſhed ordinances, which declared that the lands the conquerors had ſeized ſhould not paſs to their deſcendants, and which diſpoſſeſſed thoſe who had taken part in the civil commotions. All the Peruvians who had been enſlaved by monks, biſhops, and perſons belonging to the government, were declared free. Other tyrannical eſtabliſhments alſo would ſoon have been proſcribed; and the conquered people were on the eve of being ſheltered under the protection of laws, which would at leaſt have tempered the rigours of the right of conqueſt, if even they had not entirely repaired the injuſtice of them; but the Spaniſh government was to be unfortunate even in the good it attempted to effect. A change ſo unexpected filled thoſe with conſternation, who ſaw their fortunes thus wreſted from them. From aſtoniſhment they proceeded to indignation, murmuring, and ſedition. The viceroy was degraded, put in irons, and baniſhed to a deſert iſland, till he could be conveyed to Spain. Gonzales Pizarro was then returned from his hazardous expedition, which had employed him long enough to prevent him from taking a part in thoſe revolutions which had ſo rapidly ſucceeded each other. The anarchy he found prevailing at his return, inſpired him with the idea of ſeizing the ſupreme authority. His fame and his forces made it impoſſible that this ſhould be refuſed him; but his uſurpation was marked with ſo many enormities that Nunez was regretted. He was recalled from exile, and ſoon collected a ſufficient number of forces to enable him to take the field. Civil commotions were then renewed with extreme fury on both parties. No quarter was aſked or given on either ſide. The Indians took part in this as they had done in the preceding wars; ſome ranged themſelves under the ſtandard of the viceroy, others under the banners of Gonzales. From 15,000 to 20,000 of theſe unhappy wretches, who were ſcattered about in each army, dragged on the artillery, levelled the roads, carried the baggage, and deſtroyed one another. Their conquerors had taught them to be ſanguinary. After a variety of advantages for a long time alternately obtained, fortune at length favoured the rebellion under the walls of Quito, in January 1545; and Nunez with the greateſt part of his men were maſſacred. Pizarro took the road to Lima, where they were deliberating on the ceremonies with which they ſhould receive him. Gonzales contented himſelf with making his entry on horſeback, preceded by his lieutenant, who marched on foot. Four biſhops and the magiſtrates accompanied him. The ſtreets were ſtrewed with flowers, and the air reſounded with acclamations. This homage totally turned the head of a man naturally haughty, and of confined ideas. Had Gonzales poſſeſſed both judgment and moderation, he might have rendered himſelf independent. The principal perſons of his party wiſhed it. Inſtead of this, he acted with the cruelty, inſatiable avarice, and unbounded pride. Even thoſe, whoſe intereſts were connected with thoſe of the tyrant, wiſhed for a deliverer. Such a deliverer arrived from Europe in the perſon of Peter Di la Gaſca. The ſquadron and provinces of the mountains immediately declared for a perſon, who was inveſted with a lawful authority to govern them. Thoſe who had concealed in deſerts, caverns, and foreſts, joined him. Gonzales met the royal army, and attacked it on the 9th June 1548. One of his lieutenants, ſeeing him abandoned at the firſt charge by his beſt ſoldiers, adviſed him to throw himſelf to the enemy's battalions, and periſh like a man; but this weak man choſe rather to ſurrender and end his life on a ſcaffold. Carvajal, a formidable warrior, and more ferocious than he, was quartered. This man, when he was expiring, boaſted that he had maſſacred with his own hand 1400 Spaniards and 20,000 Indians. Such was the laſt ſcene of a tragedy, of which every act had been marked with blood. The government, moderate enough not to continue the proſcriptions; and the remembrance of the horrid calamities they had ſuffered kept the Spaniards in ſubjection. The commotion inſenſibly ſunk

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him; and the country hath remained quiet ever ſince. With regard to the Peruvians, the moſt cruel meaſures were taken to render it impoſſible for them to rebel. Tupac Amaru, the heir of their laſt king, had taken refuge in ſome remote mountains, where he lived in peace. There he was cloſely ſurrounded by the troops ſent out againſt him, that he was forced to ſurrender. The viceroy Francis De Toledo cauſed him to be accuſed of ſeveral pretended crimes, and he was beheaded in 1571. All the other deſcendants of the Incas ſhared a ſimilar fate. The horror of theſe barbarities excited ſo univerſal an indignation both in the Old and the New World, that Philip II. removed them; but the infamous policy of this prince was ſo notorious, that no credit was given to this pretence to juſtice and humanity. Only one attempt has ſince been made by the Peruvians to recover their independence, and throw off the Spaniſh yoke. An Indian of the province of Xauxa, who boaſted his deſcent from the ancient inca, was proclaimed king in 1742. His countrymen, in the hopes of recovering their lands, their ancient liberty and religion, flocked in crowds to his ſtandard, but though at firſt ſucceſsful, they were defeated and diſperſed, after having made a formidable progreſs.

(6.) PERU, INHABITANTS, DRESS, MANNERS, &c. Peru abounds more in women than in men, and the women enjoy a better ſtate of health, owing to the early internal decampment of the men. The women are well made, of a proper ſtature, and have a lively and agreeable countenance. The Meſtizoes are alſo in general well made, often taller than the ordinary ſize, and very robuſt. The Indians are commonly low of ſtature, though ſtrong and well proportioned. Some are remarkably corpulent. Their hair is thick and long, and worn by all: but the Indian women plait theirs behind with a ribbon, and cut that before above the eye-brows. The greateſt diſgrace that can be offered to an Indian of either ſex is to cut off their hair; other puniſhment they bear with patience; but this they never forgive. The colour of the Indians is a deep black; lank, harſh, and coarſe as the hair of a horſe. The male Meſtizos, to diſtinguiſh themſelves from the Indians, cut off their hair, but the females do not. The Meſtizos wear a blue cloth, manufactured in this country. The Meſtizo women affect to dreſs in the ſame manner as the Spaniſh. The dreſs of the Indians conſiſts of white cotton drawers, down to the calf of the leg, looſe, and edged with a lace. The body is ſupplied by a black cotton frock, in the form of a ſack, with three openings one for the head and 2 others for the arms. Over this is a cloak, and a hat. This is their general dreſs, which they never lay aſide, even while they ſleep. Indians, who have acquired ſome fortune, eſpecially the barbers and phlebotomiſts, diſtinguiſh themſelves from their countrymen by the faſhion of their drawers, and a ſhirt, with lace of five fingers broad faſtened round like a cravat. They wear ſilver or gold buckles to their ſhoes, though they wear no ſtockings; and have a cloak of fine cloth, often adorned with broad ſilver lace. Rum and brandy are drank by perſons of all ranks; but the exceſſive uſe of ſpirituous liquors chiefly prevails among the Meſtizos. Another liquor much uſed in this country is mate, which is made of an herb Paraguay. (See PARAGUAY, N° 4.) Gaming is carried to an extravagant height. The common people and the Indians, are greatly addicted to ſtealing; but robberies are ſeldom heard of.

(7.) PERU, MINES OF. There are great numbers of very rich mines which the waters have invaded. The diſpoſition of the ground, which from the ſummit of the Cordilleras goes continually ſhelving to the South Sea, renders ſuch events more common at Peru than in other places. This has been in ſome inſtances remedied. Joſeph Salcedo, about 1660, diſcovered near Puna, the mine of Laycacoto. It was ſo rich, that they often cut the ſilver with a chiſel. It was at laſt overflowed with water, but in 1740, Diego de Bacna aſſociated with others to avert the ſprings. The labours, which this difficult undertaking required, were not finiſhed till 1754. The mine yields as much now as it did at firſt. But mines ſtill richer have been diſcovered. Such is that of POTOSI, which was found in the ſame country where the Incas worked that of Porco. An Indian, named *Huallpa*, in 1545, purſuing ſome deer, in order to climb certain ſteep rocks laid hold of a buſh, the roots of which looſened from the earth, and brought to view an ingot of ſilver. The Indian had recourſe to it for his own uſe. The change in his fortune was remarked by one of his countrymen, and he diſcovered to him the ſecret. The two friends could not keep their counſel and enjoy their good fortune. They quarrelled; on which the indiſcreet confident diſcovered the whole to his maſter, Villaroel, a Spaniard. Upon this the mine was worked; and a great number of others were found in its vicinity; the principal of which are in the northern part of the mountain, and their direction is from N. to S. The fame of Potoſi ſoon ſpread abroad; and there was quickly built at the foot of the mountain a town, conſiſting of 60,000 Indians and 10,600 Spaniards. The ſterility of the ſoil did not prevent its being immediately peopled. Corn, fruit, ſtocks, American ſtuffs, European luxuries, arrived from every quarter. In 1778 theſe mines produced annually near 978,000 l. without reckoning the ſilver which was not regiſtered, and what had been carried off by fraud. From that time the produce has been ſo much diminiſhed, that not above $\frac{1}{4}$th part of the coin which was formerly ſtruck is now made. At all the mines of Peru, the Spaniards, in purifying their gold and ſilver, uſe mercury, with which they are ſupplied from Guança Velica. The common opinion is, that this mine was diſcovered in 1564. The trade of mercury was then ſtill free: it became an excluſive trade in 1572. At this period all the mines of mercury were ſhut; and that of Guança Velica alone was worked, the property of which the king reſerved to himſelf. It is not found to diminiſh. This mine is dug in the very large mountain, of POTOSI, 60 leagues from Lima. In its profound abyſs are ſeen ſtreets, ſquares, and a chapel, where the myſteries of religion on all feſtivals are celebrated. Millions of flambeaux are continually kept to enlighten it. The mine of Guança Velica generally affects thoſe who

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who work in it with convulsions: and the other mines, which are not less unhealthy, are all worked by the Peruvians. These unfortunate victims of an insatiable avarice are crowded all together and plunged naked into these abysses, the greatest part of which are deep, and all excessively cold. Tyranny has invented this refinement in cruelty, to render it impossible for any thing to escape its restless vigilance. If there are any wretches who long survive such barbarity, it is the use of cocoa that preserves them.

(8.) PERU, MOUNTAINS, RIVERS, AND TOWNS OF. The principal mountains of Peru are the Andes, or Cordilleras. See ANDES, § 1—6. The chief rivers are the SANGAY, UPANO, *Payra*, *Latacunga*, TITICACA, &c. The principal cities are Quito, Paita, Lima, Cusco, Potosi, Porco.

(9.) PERU, POPULATION OF. The population of Peru has not been ascertained with any precision. The city of Lima contains 54,000; Guayaquil, 20,000; Potosi, 25,000; Paz, 20,000, and Cusco, 26,000; in all 145,000; but these places are but a small part of the Peruvian empire.

(10.) PERU, PROVINCES, EXTENT, CLIMATE, &c. OF. This extensive empire is governed by a viceroy, and is divided into three large provinces or audiences, called QUITO, LIMA or *Los Reges*, and CHARCAS. (See these articles.) This empire, when it was subdued, extended along the S. Sea, from the river of Emeralds to Chili, and on the land side to Popayan, according to some geographers. It contained within it that famous chain of mountains which rises in the Terra Magellanica, and is gradually lost in Mexico, where it unites the southern parts of America with the northern. The climate differs extremely in different parts of the country, though it lies all within the torrid zone. Some places are exceeding hot; others mild and temperate: others, particularly the tops of the CORDILLERAS, and other high mountains, are covered with eternal snow; while other mountains, covered also with snow, constantly throw out torrents of fire and smoke. In some places it never rains; in others the rains are excessive. Thunder storms are also exceedingly frequent in some places, while in others they are totally unknown. But no part of the globe is so often convulsed by the most dreadful of all natural phænomena, earthquakes. Nor is any part of the empire so frequently visited by them as Lima. (See LIMA.) In Feb. 1797, a dreadful earthquake happened, by which great numbers of people perished. In the provinces of Taninga, Ambato, Rio Bamba, Alaosi, and part of Quito and Chimbo, the houses were all levelled with the ground. The mountains shook with such violence, that they were dashed against each other, and the volcanos threw up burning lava, dust, stones, and water; and totally destroyed Capalpi, San-Andrea, Ouany, Guanando, Emlyies, and many other places. At Simbagna and Timba, new rivers burst forth, and several lakes threw up flames. Yet in the whole of this empire, the climate is healthy; nor is there any malady peculiar to it; and most of the diseases of Europe are little known in it.

(11.) PERU, QUADRUPEDS, BIRDS, INSECTS, &c. OF. Hogs, cattle, which were early introduced from Europe, now run wild and are hunted. Goats have also thriven well; but European [illegible] have degenerated. There are three species quadrupeds peculiar to Peru, viz. the *Lama*, *vicuna* and *guanaco*. They are all three species camels, though covered with wool, and [illegible] called *camel-sheep*. The lama is described [illegible] CAMELUS, N° 3, and the two latter are [illegible] of Pacos. See CAMELUS, N° 4. The [illegible] make cloth of their wool, and they are of [illegible] service as beasts of burden, being very docile easily kept. Their flesh is reckoned as good mutton. The guanaco is useful in the mines, [illegible] ing metals one rugged roads, where no other could go. There are also a few tigers, as large fierce as those of Africa, and a species of wo[illegible] roneously called a lion. Alligators also fre[illegible] the banks of the rivers. The most singular are the *gallinazo*, and the CONDOR, two [illegible] species of vultures. (See VULTUR.) The ga[illegible] is of great use in preventing the country fr[illegible] ing over-run with alligators. They watch male alligators, concealed among the brand[illegible] trees near the banks of rivers, and as soon a[illegible] have laid their eggs and retired, these bir[illegible] down and devour them, tearing up such buried in the sand. The condor is the bird in this country, is very carnivorous, ten flies off with lambs. The ZUMBAD *hummer*, is a night bird peculiar to the mo[illegible] and deserts. They are seldom seen, bu[illegible] heard, by their singing and humming noise air. The humming birds likewise abou[illegible] are remarkable for their smallness of size, beautiful vivid colours of their feathers. S[illegible] CHILUS. The TOUCAN is also peculiar country. See RHAMPHASTOS. The bats monstrous size, and often suck the blood o[illegible] Serpents are numerous, particularly rattle Spiders and most other insects are larger th[illegible] of Europe. Earth worms are as long as arm, and as thick as one's thumb.

(12.) PERU, RELIGION OF THE ANCI[illegible] TIVES OF. The Peruvians were taught by to adore the Creator, whom they deno[illegible] *Paca Camac*, that intelligence which anim[illegible] world. They seldom built temples or of[illegible] crifices to him. One temple, however, d[illegible] to *The unknown God*, the Spaniards found[illegible] arrival, erected in a valley, thence named *key of Paca Camac*. The sacrifices institute[illegible] nour of the sun consisted chiefly of lambs; which they offered all sorts of cattle, fo[illegible] corn, and even burnt their finest cloths on tar by way of incense. They had drink [illegible] made of maize, steeped in water. They [illegible] some kind of veneration to the images o[illegible] animals and vegetables that had a place temples. Besides the solemnities at e[illegible] moon, 4 grand festivals were celebrated a[illegible] The first, called *Raymi*, was held in June, in honour of the sun, but of their first Inca Capac, and Coya Mama Ocla, his wife a[illegible] whom the Incas considered as their first descended immediately from the sun. At tival, all the viceroys, generals, gover[illegible] nobility, assembled at Cuzco; and the In[illegible] ciated in person as high-priest; though o[illegible] occasions the regular pontiff, who was

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the uncle or brother of the Inca, officiated. On the morning of the feſtival, the Inca, accompanied by his near relations, in order of their ſeniority, went barefoot in proceſſion, at day-break, to the market-place, where they remained looking attentively towards the eaſt. The luminary no ſooner appeared, than they fell proſtrate on their faces in the moſt profound veneration, and acknowledged it to be their god and father. The vaſſal princes, and nobility, that were not of the blood royal, did the ſame in another ſquare. The prieſts then offered a black lamb, in ſacrifice, firſt turning its head towards the eaſt. From the entrails of the victim, they drew prognoſtics of peace and war, &c. The Peruvians believed in the immortality of the ſoul. The Incas taught them that, on leaving this world, they ſhould enter into a ſtate of happineſs, provided for them by their god and father the ſun.

(13.) PERU, SCIENCES AND ARTS IN. Before the arrival of the Spaniards in America, the Peruvians were acquainted with ſome points of aſtronomy. They had obſerved the various motions of the planet Venus, and the different phaſes of the moon. The people divided the year by the moon; but the Incas, who had diſcovered the revolution of the ſun, marked out the ſummer and winter ſolſtices by high towers, which they erected to the E. and W. of Cuzco. When the ſun roſe exactly oppoſite to 4 of thoſe towers, on the E. ſide of the city, and ſet againſt thoſe of the W. it was then the ſummer ſolſtice; when it roſe and ſet againſt the towers, it was the winter ſolſtice. They had alſo erected marble pillars in the great ſquare before the temple of the ſun, by which they obſerved the equinoxes, under the equator, when the ſun being vertical, the pillars caſt no ſhade. At thoſe times they crowned the pillars with garlands of flowers and odoriferous herbs, and celebrated a feſtival to the ſun. They diſtinguiſhed the months by the moon, and their weeks were called quarters of the moon; the days of the week they diſtinguiſhed, as *firſt*, *ſecond*, &c. When the moon was eclipſed, they concluded it was on account of their ſins, imagining that this phenomenon portended famine, war, peſtilence, or ſome other terrible calamity. In a ſimilar ſtate of the moon, they apprehended that ſhe was ſick, and dying. They had philoſophers, who taught arts, cultivated poetry, and compoſed plays, which were acted before the king by the great men of the court, officers, &c. They were acquainted with painting and ſtatuary, but in all the refinements of mechanic arts they were extremely deficient. Though many goldſmiths were conſtantly employed, they had never invented an anvil of any metal, but uſed a hard ſtone, and beat their plate with round pieces of copper inſtead of hammers; nor had they any files or graving tools. Their carpenters had no other tools than hatchets of copper or flint; nor had they learned the uſe of iron; though the country affords mines of it. Their knives were alſo made of flint or copper.

(14.) PERU, SOIL AND PRODUCE OF. The fertility of the ſoil is incredible, for the fruits and flowers of all the ſeaſons are viſible at the ſame time; and while ſome herbs of the field are fading, others of the ſame kind are ſpringing up; while ſome flowers loſe their beauty, others blow; when the fruits of the trees have attained their maturity, and the leaves begin to change their colour, freſh leaves bloſſom, and fruits are ſeen in their proper gradations in ſize and ripeneſs on the ſame tree. The ſame inceſſant fertility is conſpicuous in the corn, both reaping and ſowing being carried on at the ſame time: ſo that the declivities of the neighbouring hills exhibit all the beauties of the four ſeaſons in one aſſemblage. Though all this is generally ſeen, yet there is a ſettled time for the grand harveſt: yet ſometimes the moſt favourable ſeaſon for ſowing in one place is a month or two after that of another, though their diſtance does not exceed 3 or 4 leagues. Thus in different ſpots, ſowing and reaping are performed throughout the year, the forwardneſs or retardment ariſing from the different ſituations, and temperatures. The *chirimoya* is conſidered as one of the moſt delicious fruits in the world. Its dimenſions are various, being from 1 to 5 inches in diameter. It is imperfectly round, flatted towards the ſtalk, but all the other parts are nearly circular. It is covered with a thin ſoft ſhell, which adheres ſo cloſely to the pulp as not to be ſeparated from it without a knife. The outward coat is green, variegated with prominent veins, forming all over it a kind of net-work. The pulp is white, and contains a large quantity of juice reſembling honey, of a ſweet taſte, mixed with a gentle acid of a moſt exquiſite flavour. The ſeeds are formed in ſeveral parts of the pulp, and are ſomewhat flat. The tree is high and tufted, the ſtem large and round, but with ſome inequalities, full of elliptic leaves, terminating in a point. The bloſſom and leaves are a darkiſh green. It is remarkable for its incomparable fragrance. The *granadilla* reſembles a hen's egg, but is larger. The outſide of the ſhell is ſmooth, gloſſy, and of a faint carnation colour, and the inſide white and ſoft. The ſhell contains a viſcous liquid ſubſtance full of very ſmall and delicate grains, leſs hard than thoſe of the pomegranate. This medullary ſubſtance is ſeparated from the ſhell by a fine and tranſparent membrane. Its fruit has a delightful ſweetneſs blended with acidity, very cordial and refreſhing, and ſo wholeſome, that there is no danger of eating to exceſs. The *frutilla*, or Peruvian ſtrawberry, is generally not above an inch in length, but much larger in ſome parts of Peru; but their taſte, though juicy, and not unpalatable, is not equal to thoſe in Europe. Wheat, barley, maize, potatoes, caſſava, pimento, cotton, vines, olives, &c. are cultivated, and afford abundant produce.

(15.) PERU, TRADE AND MANUFACTURES OF. Commerce is chiefly carried on by Europeans, who are ſettled in Peru. The manufactures are chiefly cottons, white and ſtriped baize and cloths. On the arrival of the galleons at Carthagena, theſe traders reſort thither to purchaſe European goods, which on their return they diſperſe through the provinces. Iron and ſteel are imported from Europe, and large quantities of indigo from Mexico; blue being the colour chiefly preferred, in apparel. With the wool of the vicuna, they make, at Cuſco, ſtockings, handkerchiefs, and ſcarfs. The ſame wool, mixed with that of the European ſheep, ſerves for carpets and fine cloth. Inferior wool is

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manufactured into ſerges, gruggets, &c. Gold and ſilver toys, laces and embroideries are alſo made by the natives; the laſt chiefly by Peruvian girls, and Meſtizos.

(16.) PERU, VOLCANOES OF. The principal volcanoes are SANGAY, *Cotopaxi*, PICHINCHA, and TONGOURGUA. See theſe articles.

* *To* PERVADE. *v. a.* [*pervado*, Lat.] 1. To paſs through an aperture; to permeate.—

The labour'd chyle *pervades* the pores. *Blackm.*

—Paper dipped in water or oil, and many other ſubſtances ſoaked in ſuch liquors as will intimately *pervade* their little pores, become more tranſparent. *Newt.* 2. To paſs through the whole extenſion.—An immaterial ſelf-active ſubſtance, that can penetrate and *pervade* it. *Bentley.*—

What but God,
Pervades, adjuſts and agitates the whole? *Thomſ.*

* PERVASION. *n. ſ.* [from *pervade*.] The act of pervading or paſſing through.—Both thoſe kinds of fluidity, aſcribed to ſaltpetre, will appear to be cauſed by the *pervaſion* of a foreign body. *Boyle.*

* PERVERSE. *adj.* [*pervers*, Fr. *perverſus*, Lat.] 1. Diſtorted from the right.—

And nature breeds
Perverſe, all monſtrous, all prodigious things. *Milton.*

2. Obſtinate in the wrong; ſtubborn; untractable.

This was all thy care
To ſtand approv'd in ſight of God, though worlds
Judg'd thee *perverſe*. *Milton's Par. Loſt.*

To ſo *perverſe* a ſex all grace is vain. *Dryd.*

3. Petulant; vexatious; peeviſh; deſirous to croſs and vex; croſs.—

I'll frown and be *perverſe*, and ſay thee nay,
So thou wilt woo. *Shak.*

* PERVERSELY. *adv.* [from *perverſe*.] With intent to vex; peeviſhly; vexatiouſly; ſpitefully; croſsly; with petty malignity.—Men *perverſely* take up piques and diſpleaſures at others. *Decay of Piety.*—Men, that do not *perverſely* uſe their words, ſeldom miſtake the ſignification of the names of ſimple ideas. *Locke.*—

A patriot is a dangerous poſt,
When wanted by his country moſt,
Perverſely comes in evil times. *Swift.*

* PERVERSENESS. *n. ſ.* [from *perverſe*.] 1. Petulance; peeviſhneſs; ſpiteful croſsneſs.—

Virtue hath ſome *perverſeneſs*; for ſhe will
Neither believe her good, nor others ill. *Donne.*

Her whom he wiſhes moſt, ſhall ſeldom gain
Through her *perverſeneſs*. *Milt. Par. Loſt.*

The *perverſeneſs* of my fate is ſuch,
That he's not mine, becauſe he's mine too much. *Dryden.*

Conviction does but more incenſe;
Perverſeneſs is your whole defence. *Swift.*

Perverſion; corruption. Not in uſe.—Neither can this be meant of evil governours or tyrants, but of ſome *perverſeneſs* and defection in the nation itſelf. *Bacon.*

* PERVERSION. *n. ſ.* [*perverſion*, Fr. from *perverſe*.] The act of perverting; change to ſomething worſe.—Women to govern men, ſlaves freemen, are much in the ſame degree; all being total violations and *perverſions* of the laws of nature and nations. *Bacon.*—The hopes of enjoying the abbey lands would be an effectual incitement to their *perverſion*. *Swift.*

* PERVERSITY. *n. ſ.* [*perverſité*, Fr. from *perverſe*.] Perverſeneſs; croſsneſs.—

What ſtrange *perverſity* is this of man! *Norris.*

* *To* PERVERT. *v. a.* [*perverto*, Lat. *pervert*, Fr.] 1. To diſtort from the true end or purpoſe.—Inſtead of good they may work ill, and *pervert* juſtice to extreme injuſtice. *Spenſer's Ireland.*—thou ſeeſt the oppreſſion of the poor, and violent *perverting* of juſtice in a province, marvel not. *Eccluſ.* v. 8.—

If then his providence
Out of our evil ſeek to bring forth good,
Our labour muſt be to *pervert* that end,
And out of good ſtill to find means of evil. *Milton.*

—He has *perverted* my meaning by his gloſs. *Dryden.*—Porphyry has wrote a volume to explain this cave of the nymphs with more piety than judgment; and another perſon has *perverted* it to obſcenity; and both allegorically. *Broome.*—I cannot charge any thing upon their nature, but we take care that it is not *perverted* by their education. *Law.* 2. To corrupt; to turn from right; oppoſed to convert, which is to turn to the wrong to the right.—

He in the ſerpent had *perverted* Eve,
Her huſband ſhe, to taſte the fatal fruit. *Milton.*

—The ſubtle practices of Eudoxius, biſhop of Conſtantinople, in *perverting* and corrupting the pious Emperor Valens. *Waterland.*

* PERVERTER. *n. ſ.* [from *pervert*.] One that changes any thing from good to bad; a corrupter.—Where a child finds his own parents *perverters*, he cannot be ſo properly born, as ſhuffled into the world. *South.* 2. One who diverts any thing from the right purpoſe.—He that ſets a prohibition in a divine law, had need be well ſatisfied about the ſenſe he gives it, leſt he be found the wrath of God, and be found a *perverter* of his law. *Stillingfleet.*

* PERVERTIBLE. *adj.* [from *pervert*.] That may be eaſily perverted. *Ainſworth.*

(1.) PERUGIA, a handſome, large, ancient, populous city of Italy, capital of PERUGINO; ſituated on a hill. It has a ſtrong citadel, an univerſity, 3 colleges, 3 academies, and a biſhop's ſee. It has churches, and many other buildings are very handſome. It is 60 miles NE. of Florence, 75 N. of Rome. Lon. 12. 30. E. Lat. 43. 6. N.

(2.) PERUGIA, a lake of Perugino, 8 miles from the city, N° 1. It is almoſt round, being about 8 miles in diameter, and has 3 iſlands.

(1.) PERUGIANO, or } a province of Italy,
(1.) PERUGINO, } one of the ſmalleſt in the territory of the church, bounded on the N. by Etruria; on the S. by Orvietano, and on the E. by the duchies of Spoleto and Urbino, and on the N. by the county of Caſtellana. It is 25 miles long, and 24 broad. The air is very pure, and the ſoil fertile in corn and good wine. The capital is PERUGIA.

(2.) PERUGINO. See MONTANINI.

* PERVICACIOUS. *adj.* [*pervicax*, Lat.] Spitefully obſtinate; peeviſhly contumacious. May private devotions be efficacious upon the mind of one of the moſt *pervicacious* young creatures! *Clariſſa.*—

Gondib

Gondibert was in fight audacious,
But in his ale moſt *pervicacious*. *Denham.*

* PERVICACIOUSLY. *adv.* [from *pervicacious*.] With ſpiteful obſtinacy.

* PERVICACIOUSNESS. } *n. ſ.* [*pervicacia*, Lat. from *pervicacious*.] Spiteful obſtinacy.
* PERVICACITY.
* PERVICACY.

* PERVIOUS. *adj.* [*pervius*, Lat.] 1. Admitting paſſage; capable of being permeated.—The Egyptians uſed to ſay, that unknown darkneſs is the firſt principle of the world; by darkneſs they mean God, whoſe ſecrets are *pervious* to no eye. *Taylor.*—

He to thickets fled,
Conceal'd from aiming ſpears, not *pervious* to the ſteed. *Dryden.*

—Thoſe lodged in our earth, more lax and *pervious*. *Woodward.* 2. Pervading; permeating. This ſenſe is not proper.—

What is this little, agile, *pervious* fire,
This flutt'ring motion which we call the mind? *Prior.*

* PERVIOUSNESS. *n. ſ.* [from *pervious*.] Quality of admitting a paſſage.—The *perviouſneſs* of our air to a body much more ſubtile than air, proceeded partly from the looſer texture of that glaſs the receiver was made of, and partly from the enormous heat, which opened the pores of the glaſs. *Boyle.*—There will be found another difference beſides that of *perviouſneſs*. *Holder's Elements.*

PERVISSE, a town of the imperial French republic, in the department of Lys, and late province of Auſtrian Flanders; 6 m. WNW. of Dixmude.

* PERUKE. *n. ſ.* [*peruque*, Fr.] A cap of hair; a periwig.—I put him on a linen cap, and his *peruke* over that. *Wiſeman.*

(1.) PERUKE. See PERIWIG, and PERRUKE.

* To PERUKE. *v. a.* [from the noun.] To dreſs with factitious hair.

* PERUKEMAKER. *n. ſ.* [*peruke* and *maker*.] A maker of perukes; a wigmaker.

* PERUSAL. *n. ſ.* [from *peruſe*.] The act of peruſing.—This treatiſe requires application in the peruſal. *Woodw.*—If upon a new *peruſal* you think it written in the very ſpirit of the ancients, it deſerves your care. *Atterbury.*

PERUSE, a town of France, in the department of Carente; 9 miles S. of Conſolent.

* To PERUSE. *v. a.* [*per* and *uſe*.] 1. To read. *Peruſe* this writing here. *Shak. Rich.* II.—Set apart an hour in a day to *peruſe* thoſe petitions. *Bacon.*—Obſerve whether he taſtes the diſtinguiſhing perfections of the author whom he peruſes. *Addiſ. Spect.* 2. To obſerve; to examine.

I hear the enemy;
Out ſome light horſemen, and *peruſe* their wings. *Shak.*

I've *perus'd* her well. *Shak.*

Myſelf I then *perus'd*, and limb by limb
Survey'd. *Milt. Par. Loſt.*

* PERUSER. *n. ſ.* [from *peruſe*.] A reader; examiner.—The difficulties and heſitations of every one will be according to the capacity of each *peruſer*. *Woodw.*

PERUSIA, an ancient town of Etruria, on the Tiber, built by Oenus; where L. Antonius was beſieged by Auguſtus, till he ſurrendered. (*Strabo.*) It is now called PERUGIA.

PERUVELS, a town of the imperial French republic, in the dep. of Jemappes, and ci-devant prov. of Auſtrian Hainault, 5 miles N. of Condé.

(1.) PERUVIAN, *adj.* of or belonging to PERU.

(2.) PERUVIAN BALSAM. See MYROXYLON.

(3.) PERUVIAN BARK, or JESUITS BARK, the Bark of the Cinchona officinalis, a well known medicine. See CINCHONA, N° 3. The pale and the red are chiefly uſed in Britain. The pale is brought to us in pieces of different ſizes, either flat or quilled, and the powder is rather of a lighter colour than that of cinnamon. The red is generally in much larger, thicker, flatiſh pieces, but ſometimes alſo in the form of quills, and its powder is reddiſh like that of Armenian bole. It is much more reſinous, and poſſeſſes the ſenſible qualities of the cinchona in a much higher degree than the other ſorts; and the more nearly the other kinds reſemble the red bark, the better they are now conſidered. The red bark is heavy, firm, ſound, and dry; friable between the teeth; does not ſeparate into fibres; and breaks, not ſhivery, but ſhort, cloſe, and ſmooth. It has three layers; the outer is thin, rugged, of a reddiſh brown colour, but frequently covered with moſſy matter: the middle is thicker, more compact, darker coloured, very reſinous, brittle, and yields firſt to the peſtle: the inmoſt is more woody, fibrous, and of a brighter red. The Peruvian bark yields its virtues both to cold and boiling water; but the decoction is thicker, gives out its taſte more readily, and forms an ink with a chalybeate more ſuddenly than the freſh cold infuſion. This infuſion, however, contains at leaſt as much extractive matter, but more in a ſtate of ſolution; and its colour, on ſtanding ſome time with the chalybeate, becomes darker, while that of the decoction becomes more faint. When they are of a certain age, the addition of a chalybeate renders them green; and when this is the caſe, they are in a ſtate of fermentation, and effete. Mild or cauſtic alkalies, or lime, precipitate the extractive matter, which in the caſe of the cauſtic alkali is re-diſſolved by a farther addition of the alkali. Lime-water precipitates leſs from a freſh infuſion than from a freſh decoction; and in the precipitate of this laſt ſome mild earth is perceptible. The infuſion is by age reduced to the ſame ſtate with the freſh decoction, and then they depoſite nearly an equal quantity of mild earth and extractive matter; ſo that lime-water, as well as a chalybeate, may be uſed as a teſt of the relative ſtrength and periſhable nature of the different preparations, and of different barks. Accordingly cold infuſions are found by experiments to be leſs periſhable than decoctions; infuſions and decoctions of the red bark than thoſe of the pale; thoſe of the red bark, however, are found by length of time to ſeparate more mild earth with the lime-water, and more extracted matter. Lime-water, as precipitating the extracted matter, appears an equally improper and diſagreeable menſtruum. Water ſuſpends the reſin by means of much leſs gum than has been ſuppoſed. Rectified ſpirit of wine extracts a bitterneſs, but no aſtringency, from a reſiduum of

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to infusions of cold water; and water extracts astringency, but no bitterness, from the residuum of as many affusions of rectified spirit. The residua in both are insipid. From many ingenious experiments made on the Peruvian bark by Dr Irvine, published in a dissertation which gained the prize-medal given by the Harveian Society of Edinburgh for 1783, the power of different menstrua, as acting upon Peruvian bark, is ascertained with greater accuracy than had before been done: and, with respect to comparative power, the fluids after mentioned act in the order in which they are placed: —1. *Dulcified spirit of vitriol.* 2. *Caustic ley.* 3. *French brandy.* 4. *Rhenish wine.* 5. *Soft water.* 6. *Vinegar and water.* 7. *Dulcified spirit of nitre.* 8. *Mild volatile alkali.* 9. *Rectified spirit of wine.* 10. *Mild vegetable alkali.* 11. *Lime-water.* The antiseptic powers of vinegar and bark united are double the sum of those taken separately. The astringent power of the bark is increased by acid of vitriol; the bitter taste is destroyed by it. The officinal preparations of the bark are, 1. *The powder*: of this, the first parcel that passes the sieve being the most resinous and brittle layer, is the strongest. 2. *The extract*: the watery and spirituous extract conjoined form the most proper preparations of this kind. 3. *The resin*: this cannot perhaps be obtained separate from the gummy part, nor would it be desirable. 4. *Spirituous tincture*: this is best made with proof-spirit. 5. *The decoction*: this preparation, tho' frequently employed, is yet in many respects inferior even to a simple watery infusion. The best form is that of powder; in which the constituent parts are in the most effectual proportion. The cold infusion, which can be made in a few minutes by agitation, the spirituous tincture, and the extract, are likewise proper in this respect. For covering the taste, different patients require different vehicles; liquorice, aromatics, acids, port wine, small beer, porter, milk, butter-milk, &c. are frequently employed; and it may be given in form of electuary with currant jelly, with brandy, or with rum.

(4.) PERUVIAN CAMEL. See CAMELUS, N° 3.

(5.) PERUVIAN HARE. See LEPUS, N° 15.

(6.) PERUVIAN SHEEP. See CAMELUS, N° 3.

PERUVIANA, a vast peninsula, extending itself from the isthmus of Darien to Cape Horn, in the form of a triangle, of which TERRA MAGELLANICA and the Cape, form the vertex. It includes the whole of South America, although all the countries included within these limits do not acknowledge the dominion of the crown of Spain. See TERRA FIRMA.

PERUVIANS, *n. s.* the people of PERU. See PERU, § 6.

PERUZZI, Balthasar, an historical painter and architect, born in 1481. He went to Rome, and was employed by Alexander VI, Julius II, and Leo X. He was so perfect in Chiaro obscuro and perspective, that Titian himself beheld his works with astonishment. He was in Rome in 1527, when Charles V. sacked it; but procured his liberty by painting a portrait of the Constable, Bourbon. He died in 1556.

PERWANNAH, *n. s.* in the language of Bengal, an order of government, or a letter from a man in authority.

PERWIS, a town of the French imperial republic in the dep. of the Dyle, and ci-devant prov. of Austrian Brabant; 6 miles NE. of Gembloux.

PERZANO, a town of Maritime Austria in Albania; containing 1600 people.

PERZENE, a town of the Italian republic, in the dep. of the Reno, district and late duchy of Bologna, 8 miles NE. of Bologna.

* PESADE. *n. s. Pesade* is a motion a horse makes in raising or lifting up his forequarters keeping his hind legs upon the ground without stirring. *Farrier's Dict.*

PESAN, an island in the East Sea, near the coast of China. Lon. 137. 45. E. of Ferro. Lat. 26. 52. N.

(1.) PESARO, a large city of Italy, in the territory of the pope, and duchy of Urbino, with a bishop's see, and streets paved with bricks. The castle is well fortified, the harbour excellent, and the cathedral magnificent. The environs are famous for figs, of which they send large quantities to Venice. It is seated on an eminence at the mouth of the Foglia, on the Gulph of Venice. Lon. 13. 0. E. Lat. 43. 56. N.

(2.) PESARO, a district of the Italian republic in the department of the Rubicon. At the general census, taken on the 13th May 1801, it contained 35,273 citizens.

(3.) PESARO, the capital of the above department. It seems to be the city in Urbino above described, (see N° 1.) taken from the Pope's dominions, and annexed by Bonaparte to the Italian republic; as we find no other town of the name mentioned by geographers.

PESCAGLIO, a town of the Italian republic in the dep. of the Lario, district and late duchy of Como; seated on the W. bank of the SE. arm of the lake of Como.

PESCARA, a very strong town of Naples in Abruzzo Citra; seated at the mouth of a river named, which falls into the Gulph of Venice. Lon. 15. 2. E. Lat. 42 27. N.

PESCATAWAY. See PISCATAWAY.

PESCE, Nicolas, a famous Sicilian diver, of whom F. Kircher gives the following account. "In the time of Frederic king of Sicily (says Kircher), there lived a celebrated diver, whose name was *Nicolas*, and who, from his amazing skill in swimming, and his perseverance under water, was surnamed the *fish*. This man had from his infancy been used to the sea; and earned his scanty subsistence by diving for corals and oysters, which he sold to villagers on shore. His long acquaintance with the sea, at last, brought it to be almost his natural element. He was frequently known to spend five days in the midst of the waves, without any other provisions than the fish which he caught there and ate raw. He often swam over from Sicily into Calabria, a tempestuous and dangerous passage, carrying letters from the king. He was frequently known to swim among the gulphs of the Lipari islands, no way apprehensive of danger. Some mariners out at sea, one day observed something at some distance from them which they regarded as a sea-monster; but upon its approach it was known to be Nicholas, whom they took into their ship. When they asked him whith

whither he was going in so stormy and rough a sea, and at such a distance from land, he showed them a packet of letters, which he was carrying to one of the towns of Italy, exactly done up in a leather bag, in such a manner as that they could not be wetted by the sea. He kept them thus company for some time in their voyage, conversing, and asking questions; and after eating an hearty meal with them, he took his leave, and, leaping into the sea, pursued his voyage alone. "In order to aid these powers of enduring in the deep, nature seemed to have assisted him in a very extraordinary manner: for the spaces between his fingers and toes were webbed, as in a goose; and his chest became so very capacious, that he could take in, at one inspiration, as much breath as would serve him for a whole day. The account of so extraordinary a person did not fail to reach the king himself; who commanded Nicholas to be brought before him. It was no easy matter to find Nicholas, who generally spent his time in the bosoms of the deep; but, at last, after much inquiry, he was found, and brought before his majesty. The curiosity of this monarch had been highly excited by the accounts he had heard of the bottom of the gulph of Charybdis; he now therefore conceived, that it would be a proper opportunity to have more certain information. He therefore commanded our poor diver to examine the bottom of this dreadful whirlpool; and as an inducement to his obedience, he ordered a golden cup to be flung into it. Nicholas was not insensible of the danger to which he was exposed; danger best known only to himself; and therefore he refused to remonstrate: but the hopes of the reward, the desire of pleasing the king, and the ambition of showing his skill, at last prevailed. He instantly jumped into the gulph, and was as instantly swallowed up in its bosom. He continued for three quarters of an hour below; during which time the king and his attendants remained on shore, anxious for his fate; but he at last appeared, holding the cup in triumph in one hand, and making his way good among the waves with the other. It may be supposed he was received with applause when he came on shore: the cup was made the reward of his adventure; the king ordered him to be taken proper care of; and, as he was somewhat fatigued and debilitated by his labour, after an hearty meal he was put to bed, and permitted to refresh himself by sleeping. When his spirits were thus restored, he was again brought to satisfy the king's curiosity with a narrative of the wonders he had seen; and his account was to the following effect. He would never, he said, have obeyed the king's commands, had he been apprised of half the dangers that were before him. There were four things, he said, which rendered the gulph dreadful, not only to men, but to fishes themselves. 1. The force of the water bursting up from the bottom, which required great strength to resist. 2. The abruptness of the rocks that on every side threatened destruction. 3. The force of the whirlpool dashing against those rocks. And, 4. The number and magnitude of the polypous fish, some of which appeared as large as a man; and which, every where sticking against the rocks, projected their fibrous arms to entangle him. Being asked how he was able so readily to find the cup that had been thrown in, he replied, that it happened to be flung by the waves into the cavity of a rock against which he himself was urged in his descent. This account, however, did not satisfy the king's curiosity. Being requested to venture once more into the gulph for further discoveries, he at first refused: but the king, desirous of having the most exact information possible of all things to be found in the gulph, repeated his solicitations; and, to give them still greater weight, produced a larger cup than the former, and added also a purse of gold. Upon these considerations the unfortunate diver once again plunged into the whirlpool, and was never heard of more."

PESCENNIUS NIGER. See NIGER, N° 1.

PESCHIERA, a small but strong town of the Italian republic, in the dep. of the Mincio, district and late duchy of Verona, with a castle and a strong fort; seated on the Mincio; at its origin from the lake of Garda. This town and fort were abandoned by Gen. Beaulieu, and taken by the French, on the 30th May 1796; and the Austrians, under Gen. Wurmser, were again defeated near it on the 6th Aug. 1796. Lon. 11. 4. E. Lat. 45. 27. N.

PESCHISE, a town of Naples in Capitanata, 11 miles NW. of Vieste.

PESCIA, a town of Etruria, with a bishop's see; containing 10 churches and 5 convents; famous for its oil: 10 miles SW. of Pistoia.

(1.) PESCINA, 3 towns of Naples: viz. 1. in Abruzzo Ultra; 4½ miles SE. of Celano:—

(2.) PESCINA DI FRATRI, in Capitanata, 8 miles W. of Vieste:

(3.) PESCINA POMPEIA, in Bari, 9 miles N. of Matera.

PESCO, 4 towns of Naples; thus named,

1. PESCO CASTRARO, in Abruzzo Ultra, 11 miles NE. of Aquila.

2. PESCO COSTANZO, in Abruzzo Citra; 7 miles SE. of Solmanco.

3. PESCO PAGANO, in Otranto, 11 miles NE. of Tarento.

4. PESCO VERRARO, in Principato Ultra; 12 miles from Benevento.

PESCOTTER, or PESCOTTOR, a river of S. Wales, in Caermarthenshire, which runs into the Towy.

PESENAS, an ancient town of France, in the dep. of Herault, and ci-devant prov. of Languedoc, and diocese of Agde; delightfully seated on the river Pein, 12 miles NE. of Beseirs, and 8 N. of Agde. Lon. 3. 34. E. Lat. 43. 28. N.

PESINGAN, a town of Asia, in Candahar, 90 miles SE. of Candahar.

PESME, a town of France, in the dep. of Upper Saone, 8 miles NE. of Auxonne, and 10½ S. of Gray. Lon. 23. 13. E. of Ferro. Lat. 47. 17. N.

(1.) PESNITZ, LOWER, a river of Germany, in Stiria, which rises near Schmierenberg, and runs into the Drave, 2 miles W. of Fridant.

(2.) PESNITZ, UPPER, a river of Stiria, which rises near Schmierenberg, and runs into the Salm, near Wippels Pach.

PESOLA, a lake of Naples, in Basilicata, at the foot of the Apennines.

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PESQUERA, a town of Spain, in Leon, on the Douero, 18 miles SE. of Leon.

PESAN, a town of France, in the department of the Gers, 3 miles SE. of Auch.

(1.)* PESSARY. *n. f.* [*peſſaire*, Fr.] Is an oblong form of medicine, made to thruſt up into the uterus upon ſome extraordinary occaſions.—Of cantharides he preſcribes five in a *peſſary*. *Arbuth.*

(2.) PESSARY, in medicine, is alſo a ſolid ſubſtance compoſed of wool, lint, or linen, mixed with powder, oil, wax, &c. made round and long like a finger, in order to be introduced in the exterior neck of the matrix, for the cure of ſeveral uterine diſorders.

PESSER, a mountain of Germany, in Tirol.

PESSINUS, a town of Phrygia, famous for a temple and image of Cybele. *Strabo*, 12. *Pauſ.* viii, 17.

(1.) * PEST. *n. ſ.* [*peſte*, Fr. *peſtis*, Lat.] 1. Plague; peſtilence.—

The god propitiate, and the *peſt* aſſuage. *Pope.*

2. Any thing miſchievous or deſtructive.—

At her words the helliſh *peſt*
Forbore. *Milton.*

Of all virtues juſtice is the beſt;
Valour without it is a common *peſt*. *Waller.*

The *peſt* a virgin's face and boſom bears. *Pope.*

(2, 3.) PEST, in geography, a town of Upper Hungary, capital of a county ſo named, ſeated on the Danube, in a fine plain, over-againſt Buda, 85 miles SE. of Preſburg. Lon. 18. 25. E. Lat. 47. 24. N.

* *To* PESTER. *v. a.* [*peſter*, Fr.] 1. To diſturb; to perplex; to haraſs; to turmoil.—

Who then ſhall blame
His *peſter'd* ſenſes to recoil and ſtart? *Shak.*

He hath not fail'd to *peſter* us with meſſage,
Importing the ſurrender of thoſe lands. *Shak.*

—We are *peſtered* with mice and rats. *More againſt Atheiſm.*—A multitude of ſcribblers daily *peſter* the world with their inſufferable ſtuff. *Dryden.*—They did ſo much *peſter* the church and delude the people, that contradictions were equally revered by them as the infallible will of God. *South.*—

At home he was purſu'd with noiſe;
Abroad was *peſter'd* by the boys. *Swift.*

2. To encumber.—

Fitches and peaſe
For *peſt'ring* too much on a hovel they lay. *Tuſſer.*

The people crowding near within the *peſter'd* room. *Drayton.*

Confin'd and *peſter'd* in this pinfold. *Milton.*

* PESTERER. *n. ſ.* [from *peſter*.] One that peſters or diſturbs.

* PESTEROUS. *adj.* [from *peſter*.] Encumbering; cumberſome.—In the ſtatute againſt vagabonds note the diſlike the parliament had of gaoling them, as that which was chargeable *peſterous*, and of no open example. *Bacon.*

* PESTHOUSE. *n. ſ.* [from *peſt* and *houſe*.] An hoſpital for perſons infected with the plague.

PESTI, a town of Naples, in Principato Citra, near the ruins of the ancient Pœſtum or Poſſidonia, 10 miles SE. of Salerno.

PESTICIA, a town of Naples, in Baſilicata, 15 miles N. of Turſi.

* PESTIFEROUS. *adj.* [from *peſtifer*, Lat.] 1. Deſtructive; miſchievous.—

Such is thy audacious wickedneſs,
Thy lewd, *peſtiferous* and diſſentious pranks,
The very infants prattle of thy pride. *Shak.*

—You, that have diſcover'd ſecrets, and mad ſuch *peſtiferous* reports of men nobly held, mu die. *Shak.* 2. Peſtilential; malignant; infectiou —It is eaſy to conceive how the ſteams of *peſtif rous* bodies taint the air. *Arbuthnot.*

(1.) * PESTILENCE. *n. ſ.* [*peſtilence*, Fr. *peſ lentia*, Lat.] Plague; peſt; contagious diſtem per.—

The red *peſtilence* ſtrike all trades. *Sh*
Methought the purg'd the air of *peſtilence*. *Shakeſp.*

(2.) PESTILENCE. See MEDICINE, § 63 638.

* PESTILENT. *adj.* [*peſtilent*, Fr. *peſti* Lat.] 1. Producing plagues; malignant.—G ringing of bells in populous cities diſſipated *p lent* air. *Bacon's Nat. Hiſt.*—Hoary moulded b the ſoldiers thruſting upon their ſpears railed a king Ferdinand, who with ſuch corrupt and *lent* bread would feed them. *Knolles.*—To people that dwell under or near the equat perpetual ſpring would be a moſt *peſtilent* and ſupportable ſummer. *Bentley.* 3. Miſchiev deſtructive.—There is nothing more conta and *peſtilent* than ſome kinds of harmony. *H*

Which precedent, of *peſtilent* import,
Againſt thee, Henry, had been brought. *D*

—The world abounds with *peſtilent* books, ten againſt this doctrine. *Swift's Miſc.*—In crous language, it is uſed to exaggerate the ing of another word.—

One *peſtilent* fine,
His beard no bigger though than thine,
Walked on before the reſt. *Sw*

* PESTILENTIAL. *adj.* [*peſtilentiel*, Fr. *lens*, Lat.] 1. Partaking of the nature of lence; producing peſtilence; infectious; co ous.—Theſe with the air paſſing into the infect the maſs of blood, and lay the founda of *peſtilential* fevers. *Woodw.*—

Fire involv'd
In *peſtilential* vapours. *Ad*

2. Miſchievous; deſtructive; pernicious—I ſhews the *peſtilential* deſign of thoſe that atte to diſjoin the civil and eccleſiaſtical inter *South.*

* PESTILENTLY. *adv.* [from *peſtilent*.] M chievouſly; deſtructively.

* PESTILLATION. *n. ſ.* [*peſtillum*, L The act of pounding or breaking in a mort The beſt diamonds are comminuble, and ſo from breaking hammers, that they ſubmit *peſtillation. Brown's Vulg. Err.*

PESTIS, [Lat.] the Plague. See MEDIC *Index.*

PESTIVIEN, a town of France in the dep the North Coaſts; 10 miles SSW. of Guinga and 12 N. of Roſternen.

(1.) * PESTLE. *n. ſ.* [*peſtillum*, Lat.] An inſtrument with which any thing is broken in a m tar.—What real alteration can the beating of *p*

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pestle make in any body, but of the texture of it? *Locke.*—Upon our vegetable food the teeth and jaws act as the *pestle* and mortar. *Arbuthnot.*

(2.) * PESTLE OF PORK. *n. s.* A gammon of bacon. *Ainsworth.*

PESTOVSKOI, a town of Russia, in Viatka, on the Suran; 48 miles NNE. of Slobodskoi.

PESU, a town of China, in Kiang-nan.

*PET. *n. s.* [This word is of doubtful etymology; from *despit*, Fr. or *impetus*, Lat. perhaps it may be derived some way from *petit*, as it implies only a little fume or fret.] 1. A slight passion; a slight fit of peevishness.—

If all the world
Should in a *pet* of temperance feed on pulse. *Milt.*

If we cannot obtain every vain thing we ask, the next business is to take *pet* at the refusal. *Atterbury.*—Life, given for noble purposes, must not be thrown up in a *pet*. *Collier.*—

They cause the proud their visits to delay,
And send the godly in a *pet* to pray. *Pope.*

2. A lamb taken into the house, and brought up tame.—A cade lamb. [Probably from *petit*, little.] See PEAT. *Hanmer.*

PETAECIATA, a town of Naples, in Abruzzo Ulteriore, 11 miles SE. of Civita Borella.

PETAGUEL, a territory of Brasil, bounded on the W. by Dele; E. by the sea; S. by Rio-Grande; and W. by Tupuys. It contains mines of silver.

* PETAL. *n. s.* [*petalum*, Latin.] *Petal* is a term in botany, signifying those fine coloured leaves that compose the flowers of all plants: these plants are distinguished into monopetalous, whose flower is one continued leaf; tripetalous, pentapetalous and polypetalous, when they consist of 3, 5, or many leaves. *Quincy.*

PETAL, in botany. See BOTANY, §. 146.

PETALIFORME. See BOTANY, *Glossary.*

PETALISM, *n. s.* a mode of deciding on the fate of citizens similar to the Athenian OSTRACISM. It was introduced in Syracuse about A. A. 280, to prevent the tyranny of the richer citizens who had often about that time aimed at the throne. To prevent, therefore, the evils daily arising from thence, and to bring down the aspiring views of the wealthy citizens, the Syracusans were induced to make a law like that of the Athenian ostracism; differing only in this, that every citizen who made should write on a *leaf*, instead of a shell, the names of such as they apprehended power-ful enough to usurp the sovereignty. When the votes were counted, he who had the most suffrages against him was, without further inquiry, banished five years. This method of weakening the power of the overgrown citizens, was called petalism, from writing on a *leaf*. This law was attended with many evil consequences. For those who were most capable of serving the commonwealth were driven out of it by the meanest of the people, who had not sufficient abilities to do it any service. Upon this account the law was soon repealed, and the reins of government were again put into the hands of men who knew how to manage them.

PETALOIDES FLOS. See BOTANY, *Glossary.*

* PETALOUS. *adj.* [from *petal.*] Having petals.

PETAPA, a town of Mexico, in Guatimala; 20 miles S. of Guatimala.

(1.) * PETAR. } *n. s.* [*petard*, Fr. *petardo*,
(1.) * PETARD. } Italian.] A *petard* is an engine of metal, almost in the shape of an hat, about seven inches deep, and about five inches over at the mouth; when charged with fine powder well beaten, it is covered with a madrier or plank, bound down fast with ropes, running through handles, which are round the rim near the mouth of it: this *petard* is applied to gates or barriers of such places as are designed to be surprized, to blow them up: they are also used in countermines to break through into the enemies galleries. *Military Dict.*—

'Tis the sport to have the engineer
Hoist with his own *petar*. *Shakesp. Hamlet.*

The conjugal *petard* that tears
Down all portcullices of ears. *Hudibras.*

(2.) PETARD. See PROJECTILES.

PETATLAN, a town of Mexico, in the audience of Guadalajara, and province of Culiacan; 90 miles NNW. of Culiacan.

PETAU, Denis, or } a French Jesuit of
PETAVIUS, Dionysius, } great erudition, born at Orleans in 1583. He was but 19 years of age when he was made professor of philosophy in the university of Bourges. He joined the Jesuits in 1605, and did great credit to them by his erudition. He became a zealous advocate for the church of Rome; and criticised and abused its adversaries. His chief work, which is still in great repute, he entitled *Rationarium Temporum*. It is an abridgment of universal history, from the earliest times to 1632, with authorities. He died at Paris in 1652.

PETAURI, in zoology, Flying Squirrels; a subdivision in the genus *Sciurus*. They have a hairy membrane extended from the fore to the hind legs, adapted for flying. They are called by Linnæus and Gmelin *Sciuri Volantes, Flying Squirrels*, in distinction from the *Sciuri Scandentes, or Climbing Squirrels*; but Dr Shaw rules them *Petauri*, wherein he is followed by Mr Pennant, who enumerates 8 species. See SCIURUS.

PETAW, an ancient town of Austria, in Styria; seated on the Drave, and ten S. of Vienna. 20 N.

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Its soil is sandy, and produces little rice; but all other kinds of grain abound there, as well as the greater part of the fruit-trees we have in Europe. It pays an annual tribute to the emperor, which, according to F. Martini, consists of 601,153 bags of rice, wheat, and millet; 224 pounds of linseed; 45,335 of spun silk; 13,748 of cotton; 8,737,248 trusses of straw for the horses belonging to the court, and 180,870 measures of salt, each containing 124 lb.; which is proportionably much inferior to that paid by other provinces. The face of the country here being flat, they use a kind of chariot with one wheel, constructed in such a manner, that there is room in the middle for only one person, who sits as if on horseback; the driver pushes behind, and by means of wooden levers, makes the chariot advance with safety and expedition.

PETCHORA, a river of Russia which rises in the E. of Ustiug, in Lon. 77° E. Lat. 62° 20′ N. and falls into the Frozen Ocean, in Lon. 68. 20. E. Ferro. Lat. 67. 40. N.

PETECHIÆ, in medicine, a name given to those spots, whether red or of any other colour, which appear in malignant fevers.

* PETECHIAL. *adj.* [from *petechiæ*, Latin.] Pestilentially spotted.—In London are many fevers with buboes and carbuncles, and many *petechial* or spotted fevers. *Arbuthnot.*

PETELANGE, a town of France in the dep. of the Moselle, 9 miles SW. of Sarguemines, and 13½ NE. of Morhange.

PETELIA, or PETILIA, an ancient town of Italy, in Magna Græcia, the capital of Lucania, built, or at least repaired by PHILOCTETES, who, after his return from the Trojan war, left his country Melibœa, his subjects having revolted. (*Mela*, ii, 4. *Liv.* xxiii, 20.) It made a conspicuous figure during the 2d Punic war, by its obstinate resistance to Hannibal. Marcellus, Hannibal's rival, was slain in a battle near its walls. It is now called *Strongoli*. See STRONGOLI.

(1.) PETER, St, the apostle, born at Bethsaida, was son of Jonas, and brother of St Andrew. (John i. 42, 43.) His first name was Simon, but when our Saviour called him to the apostleship, he changed his name into Cephas, that is, in Syriac, a *stone*, or a *rock*; in Latin, *petra*, whence *Peter*. He was a married man; and had his house, his mother-in-law, and his wife, at Capernaum, upon the lake of Gennesareth. (Mark i. 29. Mat. viii. 14. Luke iv. 38.) St Andrew having been first called by Jesus Christ, met his brother Simon, and told him (John i. 41.) "we have found the Messiah," and then brought him to Jesus. After having passed one day with our Saviour, they returned to their ordinary occupation, fishing. But it is thought they were present with him at the marriage of Cana in Galilee. This happened A. D. 30. St Peter's miraculous draught of fishes; the cure of his wife's mother; his walking upon the waters; his answers to our Saviour's important questions; his presence at the transfiguration; his payment of the tribute; his question respecting forgiveness, and the destruction of the temple; his vain self-confidence that he would stand by his Lord; his triple denial of him soon after, with his consequent repentance; his meeting with him after his resurrection; his 2d miraculous draught of fishes; our saviour's trying questions to him; his meeting with the other apostles; the miraculous gift of tongues; his sermon or address to the people; the consequent conversion of 3000 persons; his miraculous cure of the lame beggar; and conversion of other 5000; his imprisonment by the priests and Sadducees, and his boldness on that occasion; his annunciation of death to Ananias and Sapphira; his 2d imprisonment and liberation by an angel; his boldness before the Jewish rulers; his sufferings and dismission; his preaching at Samaria; his reproof of Simon the magician; his cure of Æneas at Lydda; his raising up Tabitha from death; his visit at Joppa, the message to him from Cornelius, his conversion; Peter's visit to him, and the consequences; his return to Jerusalem; with his imprisonment by Herod Agrippa, A. D. 44; are recorded, with many other interesting particulars in the Gospels, and Acts of the Apostles. After his delivery from prison by the angel, he left Jerusalem; but we are not told what became of him till the council held at Jerusalem in the year 51. It is thought that before this time he made his 2d journey to Rome, whence he wrote his first epistle. St Peter was obliged to leave Rome in the year 51 by order of the emperor Claudius who had banished all Jews from thence. The particulars of St Peter's life are little known after A. D. 51. in which the council of Jerusalem was held, till his last journey to Rome, which was some time before his death. Then being acquainted by revelation that the time of his death was not far off (2 Pet. i. 14.), he wrote to the faithful his 2d epistle. St Peter and St Paul came to Rome about the same time, A. D. 65, where they performed many miracles, and made many converts. Simon Magus by his tricks continued here to deceive the people, pretending himself to be the Messiah, and even attempting to ascend to heaven. See SIMON MAGUS. Soon after St Peter was thrown into prison, where it is he continued for 9 months; at last he was crucified at Rome in the Via Ostia; with his head downwards, as he himself had desired of his executioners. This he did out of a sense of humility, lest it should be thought as St Ambrose says that he affected the glory of Jesus Christ. It is said, that his body was at first buried in the catacombs, two miles from Rome, from whence it was afterwards transported to the Vatican, where it has lain ever since. His festival is celebrated with that of St Paul on the 29th of June. St Peter died A. D. 66, after having been bishop of Rome about 24 or 25 years. His age was about 74 or 75. It is agreed, that St Linus was his successor. St Peter has been made the author of several books; such were, his Acts, his Gospel, Revelation, his work about preaching, and another about judgment. There is extant, a history of St Peter, called the *Recognitions*, addressed to St Clement.

(2.) PETER OF BLOIS, a learned man of the 12th century, born about 1120, at Blois in France. He was the first person who employed the fam

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word TRANSUBSTANTIATION, which hath ever since made so great a noise. He was appointed preceptor to William II. king of Sicily in 1167, and obtained the custody of the privy seal. In 1168, he left Sicily, and returned into France. He was soon after invited into England by Henry II. who employed him as his private secretary, made him archdeacon of Bath, and gave him some other benefices. When he had spent a few years at court, he retired into the family of Richard Abp. of Canterbury, who had made him his secretary and chancellor about 1176. In this station he continued to the death of the archbishop in 1183, enjoying the highest degree of favour with that prelate. Our author remained in the same station with Abp. Baldwin, who succeeded Richard. He was also sent by that prelate to plead his cause before Pope Urban III. After the departure of Baldwin for the Holy Land in 1192, the author was involved in various troubles in his age; and died about the end of the 12th century. He appears from his works, which may justly be reckoned among the most valuable monuments of the age in which he flourished, to have been a man of great integrity and sincere piety, as well as of a lively inventive genius and uncommon erudition. His printed works consist of 124 letters, which he collected at the desire of Henry II.; of 65 sermons; and of 17 tracts on different subjects.

(5) PETER THE HERMIT. See CROISADE, § 3.

(6) PETER I. styled PETER THE GREAT, czar, afterwards emperor, of Russia, founder of the Russian empire; for though the country was well known, and of great antiquity, yet it had no part of power, of political influence, or of general commerce, in Europe, till his time. He was born in 1672; and was proclaimed czar when ten years of age, in exclusion of John his elder brother, who was of a sickly constitution and weak in his understanding. The princess Sophia, his half sister, made an insurrection in favour of her brother; and to put an end to the civil war, it was at last agreed that the two brothers should jointly possess the imperial dignity. Peter had been very much taught up, not only through the general defects of the Russian education, but likewise through the care of the princess Sophia, who surrounded him with every thing that might stifle his natural desire of knowledge, deprave his mind, and enervate it with pleasures. Notwithstanding this, his inclination for military exercises discovered itself in the tenderest years. He formed a company of 50 men, commanded by foreign officers, clothed and disciplined after the German manner. He entered himself into the lowest post, that of a drummer; never rose otherwise than as a soldier of fortune. Even his design was to teach his nobility, that birth, not birth, was the only title to military employments. He reinforced his company with several others, till at last he had got together a considerable body of soldiers. As he had then no power on his hands, he exercised them in all sorts of mock engagements, and by this means secured to himself a body of well disciplined troops. The sight of a Dutch vessel which he had met with on a lake belonging to one of his pleasure-houses, made such an impression on his mind, that he conceived the almost impracticable design of forming a navy. His first care was to get some Hollanders to build some small vessels at Moscow; and he passed two successive summers on board English or Dutch ships, which set out from Archangel, that he might instruct himself in every branch of naval affairs. In 1696 czar John died, and Peter was now sole master of the empire. In 1698 he sent an embassy to Holland; and went *incognito* in the retinue, and visited England as well as Holland, to inform himself fully in the art of shipbuilding. At Amsterdam he worked in the yard as a private ship-carpenter, under the name of *Peter Michaelof*; but he has been often heard to say, that if he had never gone to England, he had remained ignorant of that art. In 1700 he had got together a body of standing forces, consisting of 30,000 foot; and now the vast project he had formed displayed itself in all its parts. He opened his dominions, which till then had been shut up, having first sent the chief nobility of his empire into foreign countries to improve themselves in knowledge and learning. He invited into Russia all the foreigners he could meet with, who were capable of instructing his subjects in any thing, and offered them great encouragement to settle in his dominions. This raised many discontents; and the despotic authority he exerted on that occasion was scarcely powerful enough to suppress them. In 1700, being strengthened by the alliance of Augustus king of Poland, he made war on Charles XII. king of Sweden. His first ill success did not deter him; for he used to say, "my armies must be overcome, but this will at last teach them to conquer." He afterwards gained considerable advantages; and founded Petersburg in 1703. In 1709 he gained a complete victory over the Swedes at Pultowa. In 1712 he was inclosed by the Turks on the banks of the Pruth; and seemed inevitably lost, had not the czarina Catharine bribed the grand vizir, and the czar's prudence completed his deliverance. In 1716, he made a tour through Germany and Holland, and visited the royal academy of sciences at Paris. It would be endless to enumerate all the various establishments for which the Russians are obliged to him. He formed an army according to the manner of the politest and most experienced nations; he fitted out fleets in all the four seas which border upon Russia: he caused many strong fortresses to be raised after the best plans; and made convenient harbours: he introduced arts and sciences into his dominions, and freed religion from many superstitious abuses; he made laws, built cities, cut canals, &c.; was generous in rewarding, impartial in punishing; faithful, laborious, and humble; yet was not free from roughness of temper. He had indeed cured himself of excess in drinking; but he has been branded with other vices, particularly cruelty. He published the unfortunate history of his son prince ALEXIS, whom he caused to be executed, and towards whom some blame his severity, while others think it was necessary. He was equally severe to his son's friends. He beheaded his own brother-in-law Count Lapuchin, brother to his wife Ottokessa

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keſſa Lapuchin whom he had divorced, and uncle to prince Alexis. The prince's confeſſor had alſo his head cut off. The remainder of the czar's life was nothing but a ſeries of grand projects, labours, and exploits, that ſeemed to efface the memory of his exceſſive ſeverities. He made frequent ſpeeches to his court and to his council. In one he told them that he had ſacrificed his ſon to the welfare of his dominions. He died of the ſtrangury in 1725, and left the world at leaſt with the magnanimity of a hero, if not with the piety of a Chriſtian. Peter was tall of ſtature, and of a bold and majeſtic aſpect, though ſometimes disfigured by convulſions, which altered his features. He converſed with perſons in all ſtations. He loved women; and valued himſelf on drinking large draughts, rather than ſipping delicious wines. For a minuter account of his improvements, &c, ſee RUSSIA, PETERSBURG, and CATHARINE I.

(5.) PETER THE IId. emperor of Ruſſia, the ſon of the unfortunate prince Alexis, was born in 1715; and in 1727, ſucceeded the empreſs Catharine I. who had declared him grand duke in 1726. The moſt remarkable event of his reign was the diſgrace of Pr. Menzikoff. See MENZIKOFF. He died in 1730, aged 15.

(6.) PETER THE IIId, emperor of Ruſſia, was the ſon of Charles Frederick, D. of Holſtein Gottorp, by the princeſs Anne, daughter of Peter the Great, and was born in 1728. On the death of the empreſs Elizabeth, in 1762, he ſucceeded to the throne, but did not long enjoy it; being dethroned the ſame year, by his wife, CATHARINE II. He died in confinement 7 days afterwards, and, as is generally believed, was murdered in a barbarous manner, ſimilar to that by which Edward II. of England periſhed. See ENGLAND, § 28, and RUSSIA.

(7.) PETER THE IIId. K. of Arragon, ſucceeded his father James I. in 1276, and turned his arms againſt Navarre, to which kingdom he laid claim; but failed in the conqueſt of it. He married the daughter of Manfred K. of Sicily; and, to effect the conqueſt of that iſland, contrived the horrible maſſacre of the French, called the *Sicilian Veſpers*. (See SICILY.) For this crime he and the Sicilians were excommunicated by Pope Martin IV. He died at Villefranche in 1282.

(8.) PETER THE CRUEL, K. of Caſtile, ſucceeded his father Alphonſus XI. in 1350, in his 16th year, and proved a moſt barbarous and bloody tyrant; which provoked his ſubjects to rebel and expe him; but, little to the honour of the Engliſh, was reſtored by their aſſiſtance under the command of the brave *Black Prince* Edward. He was afterwards, however, abandoned by him, and met his juſt fate from his brother Henry, Count of Traſtamara, who killed him with his own hand. See SPAIN.

(9—12.) PETER, was alſo the name of 4 kings of Portugal. See PORTUGAL.

(13.) PETER, or Don PEDRO, of Portugal, D. of Coimbra, was the 3d ſon of John, K. of Portugal, and born 4th March, 1394. He was one of the moſt accompliſhed princes of his age; was himſelf very learned, and was a patron of all learned men. To increaſe his knowledge, he travelled through the principal countries in Europe, Aſia and Africa, with a train ſuitable to his quality; of which travels an account was publiſhed, but according to the ſpirit of the times, loaded with romantic fables. On his return, he married Iſabel, daughter of Count Urgel, and grand-daughter of K. Peter IV. In his travels he viſited England, and was made a Knight of the Garter, April 22, 1417, by his couſin K. Henry V. who was grand-ſon of John of Gaunt by the father, as Don Pedro was by the mother. In 1440, he was appointed regent of Portugal, during the minority of his couſin Alphonſus V. His regency was ſo mild as well as juſt, that the people of Liſbon aſked leave to erect a ſtatue to him, which this great prince declined. He governed the kingdom with ſo much propriety, that Portugal was never more reſpected by the other powers of Europe. He diminiſhed the taxes, maintained the laws in their vigour, and gave the young king excellent education; who when he came of was ſo pleaſed with his conduct, that he mar and raiſed to the throne, the Duke's daugh Donna Iſabella, in 1446. Yet all his merits not prevent the envy of ſome courtiers, who laſt got ſo much the ear of the ſilly monarch, to perſuade him, that the Duke was a trai Their villainous machinations at laſt effected death; but upon an inſpection of his pap Alphonſus became convinced of his innocen and as the only amends he could now make ord his body to be interred with every mark honour in his own ſepulchre.

(14.) PETER, THE WILD BOY, a ſavage, fou in the woods near Hamelen, a town in the ele rate of Hanover, when King George I. wi party of friends, was hunting in the foreſt Hertſwold. He was ſuppoſed to be then ab 12 years of age, and had ſubſiſted in thoſe woo upon leaves, berries, wild plants, bark of tr &c. from his infancy. How long he had bee that ſtate is not known. In 1726, he was bro over to England, and put under the care of Arbuthnot, with proper teachers. But tho there appeared no natural defect in his organ ſpeech, he could never be brought to articul ſingle ſyllable diſtinctly. He was afterwards co mitted to the care of different perſons, but ne acquired any degree of improvement. He d 22d Feb. 1785, when he was ſuppoſed to be years old. He was well made; middle-size had no appearance of an idiot, nor any thing pa ticular in his form, except two of his fingers, nited by a web up to the middle joint. He w delighted with muſic, and learned to hum a tu He had a fore-knowledge of bad weather. L Monboddo gives a particular deſcription of hi as an inſtance of his favourite hypotheſis, th "man in a ſtate of nature is a mere animal."

PETER AND PAUL, ST, in geography. See PETROPAULOWSKOI.

(1.) PETERBOROUGH, a city of Northa tonſhire, about 82 miles from London. It is leaſt city, except perhaps Ely, and unqueſtiona the pooreſt biſhopric, though one of the old towns in England. It had a monaſtery dedicat to St Peter, and founded as early as the year 65 to which the abbot of Croyland and his mon flying for protection in 870, they were overtak

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and murdered in a court of this monaſtery called the *monks churchyard*, becauſe they were all buried here; and to this day is to be ſeen the tombſtone with their effigies, which had been erected over their common grave. Soon after this the Danes deſtroyed both the monaſtery and friars, ſo that it lay deſtitute for above 100 years. The monks were, however, reſtored, and lived very ſumptuouſly, with a mitred abbot at their head, till the reformation, when Henry VIII. converted it into a biſhop's ſee. The cathedral, which is ſaid to be more than 1000 years old, though apparently the modern, is a noble Gothic fabric, and was much more ſo before it was defaced in the civil wars. The weſt front, which is 156 feet broad, is very ſtately; and beſides columns curiouſly adorned, is ſupported by three of the talleſt arches in Britain. The windows of the cloiſters are finely ornamented with ſcripture paintings, and the ſucceſſion of its abbots. There are alſo in the church, monuments of Q. Catharine, wife of Henry VIII. and of Mary queen of Scots; and the grave of one Mr Scarlet the ſexton, who buried 3000 and lived to 95, after he had buried all the magiſtrates of the town twice over. There is another parish church beſides the cathedral. The town is governed by a mayor, recorder, and burgeſſes, by a charter of Henry VIII. Beſides the dean and chapter, who are an eccleſiaſtical corporation diſtinct from the biſhop, there are 5 prebendaries, 4 ſtudents in divinity, and about 30 inferior officers; with a grammar ſchool, and two petty-ſchools. The air of Peterborough is ſaid to be very wholeſome, by reaſon of the neighbouring fens; but the water of the river is freſh and good, the higheſt ſpring tide never coming within 5 miles of the town; and there is plenty of excellent water in their wells. The ſtreets are very poor, and the houſes but mean; there is, however, a handſome market-houſe, over which are kept the aſſizes and ſeſſions. Its juriſdiction extends over 32 towns and hamlets, wherein the magiſtrates appointed by the royal commiſſion are veſted with the ſame power as judges of aſſize, and hold their quarterly ſeſſions in this city. It lies 85 S. of Boſton, and 81 N. of London. Long. 10. W. Lat. 52. 30. N.

PETERBOROUGH, COUNTESS OF. See ROBARTS, N° 1.

PETERBOROUGH, E. OF. See MORDAUNT.

PETERBOROUGH, a town of Ireland, in the county, and province of Ulſter.

PETERBOROUGH, a town of New Hampſhire in Hillſborough county; containing 861 inhabitants in 1795. It is ſeated on the Contoocook; has manufactures of iron, cloth, paper, paint and oil. It is 70 miles W. of Portſmouth, and 100 from Philadelphia.

PETERCULTER, a pariſh of Scotland in Aberdeenſhire, of an irregular figure; 8 miles long from E. to W. and from 5 to 6 broad; on the banks of the Dee. The climate is healthy; the ſurface rugged and uneven, with rocky eminences and marſhy flats interſperſed. The arable land is a mixture of light loam, clay and moſs, in general fertile. The population, in 1794, was 1500; increaſe 247 ſince 1755. The number of horſes was 132; ſheep 2,380; and black cattle 1000. About 250 acres are planted with firs and other trees. The principal manufacture is paper, which is carried on with great ſucceſs. There is alſo a diſtillery. On the top of the hill of *Old-town* there are relics of a rectangular camp. The rampart is called *Norman's Dyke*.

(1.) PETERHEAD, a town of Scotland, in the county of Aberdeen, about 30 miles NE. of that city. It ſtands on the moſt eaſterly point in Scotland, and from thence due weſt that kingdom is broadeſt. It is the neareſt land to the northern continent of Europe, and lies within 300 miles of the *cape*, which is called the *Naze of Norway*. Through this channel the grand body of the herrings paſs in their annual migrations from Shetland and the north ſeas to the more ſouthern latitudes, attended with the all-devouring cod and ling; on which account Peterhead, or, as it is ſometimes called, BUCHANNESS, hath always been the ſecond ſtation of the Dutch buſſes after leaving the Shetland iſlands. Tradition ſays, that ſome hundred years ago the Dutch offered Lord Mareſchal, then the proprietor of the coaſt, to cover a ſmall iſland called *Inch-Keith* with ſilver for the property of it to carry on their fiſheries, which for obvious reaſons could not be accepted. Be that as it may, the Dutch ſtill frequent the coaſt in July and Auguſt, and ſometimes 100 ſail are ſeen within ſight of land, buſily employed in the herring and white fiſheries. The natives, to whom this treaſure properly belongs, have lately made ſome attempts towards the white fiſhery, of which they cure and vend chiefly at the London market 4000 barrels of delicate ſmall cod and ling annually. They alſo fit out ſome veſſels for the Hebride fiſhery off Barrahead for Barcelona market; and they claim the merit of having taught the iſlanders how to take and cure the large fiſh which abound on their coaſts. They have often gained the higheſt premiums allowed by government for curing white fiſhes. Few harbours in Great Britain are of more importance to navigation than this of Peterhead, as, in caſe of violent ſtorms from the eaſterly points, large veſſels embayed betwixt this and the mouth of the Forth have not a port that they can ſafely take at every time of the tide, that of Aberdeen excepted. If therefore they cannot make their way to ſea in the teeth of a ſtrong eaſterly wind, or double this headland that they may gain the Murray frith, they muſt inevitably come on ſhore. This harbour lies on a ſpacious bay, where veſſels of any burden may ride in all other winds, and is therefore the general rendezvous of the ſhipping which frequent the northern ſeas, where they caſt anchor on clean ground, and ride ſafely till the ſtorms have abated. The harbour is defended by a good battery. A conſiderable trade is carried on directly to the Baltic for deals, iron, hemp, tar, and other articles. There is alſo a manufacture of ſewing thread, which employs many young girls. A mineral well in ſummer gives great gaiety to the place; its ſalutary virtues have long, and very juſtly, been celebrated. An analyſis of this water has been given by Dr Laing; who found that one lb. avoirdupoiſe of the water contains

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tains 30¾ gr. muriat of iron; 7 gr. muriat of lime; 3½ gr. carbonat of iron; 2 gr. ſiliceous earth; 2 gr. ſulphat of lime; 23¼ gr. ſulphate of ſoda; 7½ muriat of ſoda; and 83½ cubic inches of carbonic acid gas. This water has long been in great repute for diſorders of the ſtomach and bowels, gravel, dropſy, nervous affections, female complaints, ſcrophula, leucophlegmaſia, and diſeaſes of general debility.—The population of this town in 1794 was 2550. The town is in the form of a croſs, and is divided into 4 diſtricts. The Townhouſe is an elegant building at the head of the principal ſtreet; 60 feet long, 40 broad, with a fine clock and a ſpire 100 feet high. It coſt above L. 2000. The late improvements of the piers have coſt L. 5000. The *Keith Inch* divides the harbour into N. and S. It has many elegant houſes on it. Near it is a fort and a guard-houſe, with a battery of 4 twelve-pounders, and 4 eighteen-pounders. In 1795, this port had 28 veſſels, carrying 3000 tons. In 1793, its trade was eſtimated at above 100,000 l. a-year. Peterhead is a burgh of barony, governed by a bailie and 8 councellors. There are many elegant houſes for the accommodation of ſtrangers. There is alſo a ball-room, under which there are two ſalt-water baths. Owing to the open peninſulated ſituation, the air of this place is eſteemed peculiarly pure and healthful; even the fogs riſing from the ſea are thought to be medicinal: the town is therefore much enlivened by the concourſe of company who frequent it on theſe accounts. The town is neat and well built, the houſes are handſome, and the ſtreets tolerably ſpacious and very clean; and it has every appearance of a thriving, plentiful, and happy place. It is 24 miles N. of Aberdeen and 25 ESE. of Banff. Lon. 1. 39. W. Lat. 57° 30′ 33″ N.

(2.) PETERHEAD, a pariſh of Aberdeenſhire, in the diſtrict of Buchan; 5 miles long from N. to S. and from 3 to 4 broad; comprehending about 5000 arable acres, and 2000 of moſs and moor. The name is derived from the promontory, N° 3. The ſurface is level with a few eminences, the higheſt of which, STIRLING hill is ſcarce 200 feet above the ſea level. The coaſt on the S. is high and rocky. The ſoil is very various from a ſandy loam and thin barly ſoil to a rich deep black earth and ſtrong clay. It is watered by the Ugie, which affords ſalmon, trouts, &c. The climate is cold but healthy. The chief crops are oats, barley, peaſe, beans, turnips and potatoes. The population, in 1794, was 4,100; increaſe 1613, ſince 1755. The number of horſes was about 400; of ſheep, 590, and black cattle 900. The roads are good.

(3.) PETERHEAD, anciently PETER'S HEAD, a promontory between the above town and the ſea; which gives name to the town and pariſh. It is ſuppoſed to be the TAIXALON, or Ταιξαλον, or Ταιζαλου ακρον, of Ptolemy.

(4.) PETERHEAD BAY, a bay on the coaſt of Aberdeen, formed by the above town and promontory. It affords a very ſafe anchorage for ſhips of any burden, in all ſtrong gales from the W. WNW. or WSW.

PETERHOFF, a town in Ruſſia, about 20 miles from Peterſburg, diſtinguiſhed for its palace and gardens. The palace was begun by Peter I. and finiſhed by Elizabeth. As it is placed upon an eminence, it commands a moſt ſuperb view of Cronſtadt, Peterſburg, the intervening gulf, and the oppoſite coaſt of Carelia. The palace is moſt magnificently furniſhed, and the ſuite of apartments are truly princely. The preſence-chamber is richly ornamented with portraits of the ſovereigns of the houſe of Romanof, who have reigned in Ruſſia ſince 1613.

PETER LE PORT ST, a market town of England, in the ſouth-eaſt part of Guernſey, Hampſhire, in the Britiſh channel, conſiſting of only one long and narrow ſtreet. The mouth of the harbour is well ſet with rocks, and is on each ſide defended by a caſtle, one called the *old* caſtle, and the other *caſtle-cornet*. The governor of the iſland generally reſides here, who has the command of the garriſon in this and all the other iſtles. The harbour has a good road, whence ſhips may ſail with any wind, and from the road lie under the guns of the caſtle to the pier, cloſe to the town. The pier is a noble work, formed of raſt ſtones, joined together with great art and regularity; it is not only a ſecurity to the harbour, but, being contiguous to the town, is handſomely paved at the top with large ſmooth flags, guarded with parapets, and, being of a proper length and breadth, forms a pleaſant walk, affording a free proſpect of the ſea and the neighbouring iſlands. Cornet-caſtle, which commands the town and the harbour, ſtands on a rock ſeparated from the land by an arm of the ſea, not more than 600 yards wide, and not fordable but at low water in great ſpring-tides.

PETER-PENCE, was an annual tribute of a penny, paid at Rome out of every family at the feaſt of St Peter. And this Ina the Saxon king, when he went in pilgrimage to Rome about the year 740, gave to the pope partly as alms, and partly in recompence of a houſe erected in Rome for Engliſh pilgrims. And this continued to be paid generally until the time of King Henry VIII. when it was enacted, that from henceforth no perſon ſhall pay any penſions, Peter-pence, or other impoſitions, to the uſe of the biſhop of Rome.

PETERS, Father, a Jeſuit, was confeſſor and counſellor to James II. king of England. The prince diſmiſſed him in 1688, becauſe he was conſidered as the author of thoſe troubles in which the kingdom was then involved.

(1, 2.) PETER, ST. 2 towns of Auſtria: 1. 5 miles E. of Steyr: 2. twelve miles WSW. of Freuſtadt.

(3—5.) PETER, ST, 3 towns of Germany in Auſtria; viz. 1. four miles SE. of Landſperg: 2. 3 miles W. of Cilley: 3. three miles WNW. of Windiſch Weiſtritz.

(1.) PETERSBURG, or ST PETERSBURG, a city of Ruſſia, in the province of Ingria, and capital of the whole empire. It was founded in 1703 by Czar Peter the Great, whoſe ambition was to have a fleet on the Baltic; for which reaſon he determined to found a city which ſhould become the centre of trade throughout all his dominions. The ſpot he pitched upon was a marſhy fenny, uncultivated iſland, formed by the

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ches of the Neva, before they fall into the gulph of Finland. In the ſummer this iſland was covered with mud; and in winter became a frozen waſte, rendered almoſt inacceſſible by dreary foreſts and deep moraſſes, the haunts of bears, wolves, and other ſavage animals. Having taken the fort of Nattebourg, and the town of Neiſchantz, in 1703, Peter aſſembled in Ingria above 30,000 men, Ruſſians, Tartars, Coſſacks, Livonians, and others, even from the moſt diſtant parts of his empire, and laid the foundation of the citadel and fortifications, which were finiſhed in 4 months, almoſt in deſpite of nature. He was obliged to open ways through foreſts, drain bogs, make dykes, and lay cauſeways, before he could build the new city. The workmen were ill provided with neceſſary tools and implements, ſuch as axes, pick-axes, ſhovels, planks, and wheelbarrows; they were even obliged to fetch the earth from a great diſtance in the ſkirts of their cloaths, or in little bags made of old mats and baſtard together. They had neither huts nor tents to ſhelter them from the ſeverity of the weather: the country, which had been defolated by war, could not accommodate ſuch a multitude with proviſions; and the ſupplies by the lake Ladoga were often retarded by contrary winds. In conſequence of theſe hardſhips, above 100,000 men are ſaid to have periſhed; nevertheleſs the work proceeded with incredible vigour and expedition; while Peter, for the ſecurity of his workmen, formed a great camp, in ſuch a manner, that his infantry continued in Finland, and his cavalry were quartered in Ingria. The buildings of the city kept pace with the fortreſs, which is the ſtrength of the town, ſurrounded on all ſides by the ſea; and in little more than a year, above 300 houſes were erected. At preſent there may be about double that number in Peterſburg, tho' many of them are inconſiderable. To people this city, Peter invited merchants, artificers, mechanics, and ſeamen, from all the different countries of Europe: he demoliſhed the town of Nieuſchantz, and brought hither not only the materials of the houſes, but the inhabitants themſelves. A thouſand families were drawn from Moſcow; he obliged the nobility to quit their palaces and their eſtates in and about Moſcow, and take up their reſidence at Peterſburg, in a much more cold and diſagreeable climate. Finally, reſolving to remove from the trade of Archangel, he iſſued an ordonnance importing, that all ſuch merchandiſe as had been conveyed to Archangel, to be ſold to foreigners, ſhould now be ſent to Peterſburg, where they ſhould pay no more than the uſual duties. Theſe regulations have rendered this one of the greateſt and moſt flouriſhing cities in Europe. The Ruſſian boyars and nobility have built magnificent palaces, and are now reconciled to the ſituation. At firſt many houſes were built of timber; but theſe being ſubject to ſudden conflagrations the Czar, in 1714, iſſued an order, that all new houſes ſhould be walled with brick and covered with tiles. The fort is an irregular pentagon, with oppoſite baſtions. This, together with all the reſt of the fortifications, was in the beginning formed of earth only; but in the ſequel were faced with ſtrong walls, and provided with caſemates, which are bomb-proof. In the curtain of the fort, on the right-hand ſide, is a noble diſpenſary, well ſupplied with excellent medicines, and enriched with a great number of porcelain vaſes from China and Japan. The moſt remarkable building within the fort is the cathedral, built by the direction of an Italian architect. Peterſburg is partly built on little iſlands, ſome of which are connected by draw-bridges; and partly on the continent. In the higheſt part, on the bank of the Neva, the Czar fixed his habitation, built of freeſtone, and ſituated ſo as to command a proſpect of the greater part of the city. Here likewiſe is a royal foundery; together with the ſuperb houſes of many noblemen. On the other ſide of a branch of the Neva ſtands the Czar's ſummer palace, with a fine garden and orangery. Peterſburg is very much ſubject to dangerous inundations. In 1715, all the baſtions and draw-bridges were either overwhelmed or carried away. The breadth, depth, and rapidity of the Neva, have rendered it extremely difficult, if not impracticable, to join the iſlands and the continent by bridges. The adjacent country is ſo barren, that the town muſt be ſupplied with proviſions from a great diſtance; conſequently they are extremely dear. Here are woods in plenty, conſiſting of pine, fir, alder, birch, poplar, and elm; but the oak and the beech are generally brought from Caſan. In winter the weather is extremely cold, and hot in the ſummer. Peter the Great eſtabliſhed, in the neighbourhood of Peterſburg, manufactures of linen, paper, ſaltpetre, ſulphur, gunpowder, and bricks, together with water-mills for ſawing timber. He inſtituted a marine academy, and obliged every conſiderable family in Ruſſia to ſend at leaſt one ſon or kinſman, between the ages of 10 and 18 to this ſeminary. To crown his other plans of reformation, he granted letters patent for founding an academy, upon a very liberal endowment; and though he did not live to execute this ſcheme, his empreſs, who ſurvived him, brought it to perfection. It was modelled on the plans of the royal ſociety in London, and the academy of France. The preſent diviſions of the town are called, 1. The Admiralty quarter; 2. the Vaſſili Oſtrof or Iſland; 3. The Fortreſs; 4. The Iſland of St Peterſburg; and, 5. The various ſuburbs of Livonia, of Moſcow, of Alexander Nevſki, and Wiburgh. The late Empreſs did ſo much for this city, that ſhe may not improperly be called its ſecond foundreſs. It is, nevertheleſs, ſtill an infant place, and, as Mr Wraxhall obſerves, "only an immenſe outline, which will require future empreſſes, and almoſt future ages, to complete." The ſtreets in general, ſays Mr Coxe are broad and ſpacious; and three of the principal ones, which meet in a point at the Admiralty, and reach to the extremities of the ſuburbs, are at leaſt two miles in length. Moſt of them are paved; but a few are ſtill ſuffered to remain floored with planks. In ſeveral parts of the metropolis, particularly in the Vaſſili Oſtrof, wooden houſes and habitations, ſcarcely ſuperior to common cottages, are blended with the public buildings; but this motley mixture is far leſs common than at Moſcow, where alone can be formed any idea of an ancient Ruſſian city. The brick houſes are ornamented

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ornamented with a white ſtucco, which has led ſeveral travellers to ſay that they are built with ſtone; whereas, unleſs I am greatly miſtaken, there are only two ſtone ſtructures in all Peterſburg. The one is a palace, building by the empreſs upon the banks of the Neva, called *the marble palace*; it is of hewn granite, with marble columns and ornaments; the other is the church of St Iſaac, conſtructed with the ſame materials, but not yet finiſhed. The manſions of the nobility are many of them vaſt piles of building; they are furniſhed with great coſt, and in the ſame elegant ſtyle as at Paris or London. They are ſituated chiefly on the S. ſide of the Neva, either in the Admiralty quarter, or in the ſuburbs of Livonia and Moſcow, which are the fineſt parts of the city." See NEVA. Mr Coxe calculates the number of inhabitants in Peterſburg, at 130,000. An equeſtrian ſtatue of Peter I. in bronze, of a coloſſal ſize, the work of Monſieur Falconet, the celebrated French ſtatuary, was caſt at the expence of Catharine II. in honour of her great predeceſſor. Mr Coxe gives a particular deſcription of it. The ſtatue was erected on the 27th of Auguſt 1782, upon a pedeſtal of a moſt prodigious magnitude; the ſtone when landed, (a labour of 6 months) being 42 feet long at the baſe, 36 at the top, 21 thick and 17 high; a bulk greatly ſurpaſſing in weight the moſt boaſted monuments of Roman grandeur. The weather is extremely changeable in this capital, and the cold is at times extreme. It ſometimes happens that coachmen or ſervants, while they are waiting for their maſters are frozen to death. To prevent theſe dreadful accidents, great fires of whole trees, piled, one upon another, are kindled in the court-yard of the palace and the moſt frequented parts of the town." Peterſburg is 300 miles NE. of Stockholm, 355 NW. of Moſcow, 540. NNE. of Warſaw, 525 NE. of Copenhagen, and 750. NE. of Vienna. Lon. 30. 25. E. Lat. 59. 26′ 23″ N.

(2.) PETERSBURG, a province or government of Ruſſia, called alſo *Ingria*. See INGRIA, INRIANS, and ISCHORTZI.

(3.) PETERSBURG, a town of Oſnaburg, one mile S. of Oſnaburg.

(4.) PETERSBURG, a town of the United States, in Georgia, 40 miles NW. of Auguſta. Lon. 82. 20. W. Lat. 33. 55. N.

(5.) PETERSBURG, a town of Kentucky, ſeated on the Kentucky; 12 miles SE. of Frankfort.

(6.) PETERSBURG, a town of Pennſylvania, 20 miles SW. of New York.

(7.) PETERSBURG, a ſea-port town of Virginia, 25 miles S. of Richmond, on the ſouth ſide of the Appamatox river, 12 miles above its junction with James River, and contained nearly 300 houſes in 1787. There is no regularity, and very little elegance in Peterſburg. It is very unhealthy. It has a corporation; and is ſeated on part of 3 counties.

PETERSDORF, a town of Pruſſia, in Smaland; 24 miles E. of Konigſberg.

PETERSFIELD, a handſome town of Hampſhire on the Loddon; 18 miles NE. of Portſmouth, and 53 SW. of London. It ſends two members to parliament. Lon. 1. 5. W. Lat. 51. 5. N.

PETERSHAGEN, a town of Germany in Weſtphalia, in the county of Minden, on the Weſer; 3 miles N. of Minden, ſays Brooks, but 14 according to Cruttwell; and 37. W. of Hanover; belonging to the K. of Pruſſia. Lon. 9. E. Lat. 52. 25. N.

(1.) PETERSHAM, a ſmall town of Surry, on the Thames, on the S. ſide of Richmond Hill, 8 miles WSW. of London.

(2.) PETERSHAM, a town of Maſſachuſetts, 60 miles W. of Boſton.

PETERSHAUSEN, a town and princely abbey of Suabia, founded A. D. 980; near Conſtance from which it is ſeparated by a branch of the lake

PETER'S ISLAND, St, in the lake of Bienne the Helvetic republic, remarkable for being one the retreats of Rouſſeau; whence it has alſo the name of ROUSSEAU'S ISLAND. It lies wards the S. ſide of the lake, and commandi delightful views. There is only one farm-h on the iſland, in an apartment of which Rouſ was lodged.

PETERSKIRCHEN, a town of Germany, in A tria; 5 miles N. of Sonneberg.

PETER'S LAKE, St, a lake of N. America, w runs into the St Laurence. Its centre is 68 m above Quebec.

PETER'S POINT, a cape of Lincolnſhire miles SE. of the mouth of the Witham.

(1.) PETER'S, St, a town of Antigua.

(2.) PETER'S, St, a ſea port town of Cape ton; at the S. end of the iſland; on an iſthmus miles NE. of Point Touloufe.

(3.) PETER'S, St, one of the VIRGIN ISL

(4.) PETER'S, St, a river on the coaſt of brador, 12 miles from Belleiſle.

(5.) PETER'S, St, a river of the United St one of the NW. branches of the Miſſiſippi; w it joins in Lon. 94. 22. W. Lat. 45. 6. N.

PETERSTHAL, St, a town of Germany in late biſhopric of Straſburg; 6 m. S. of Offe

PETERSWALD, a town of Bohemia, in Le ritz; 18 miles NNW. of Leitmeritz.

PETERWARADIN, or } a fortified to
(1.) PETER-WARDEIN, } Sclavonia, a of the ſtrongeſt frontier places the houſe of tria has againſt the Turks, ſeated on the D between the Drave and the Save. Lon. 2 E. Lat. 45. 20. N.

(2.) PETER-WARDEIN, a fort of Hungary the N. bank of the Danube, oppoſite the a town.

* PETER-WORT. *n. ſ.* [*Aſcyron.*] A plant.

PETESIA, in botany, a genus of the mon nia order, belonging to the tetrandria cla plants.

(1.) PETHERTON, NORTH, a town o merſetſhire, with a market on Saturday, 8 NE. of Taunton, and 140 W. of London.

(2.) PETHERTON, SOUTH, a town of Som ſhire, with a market on Tueſday on the P 8 miles SW. of Ilcheſter, 18 S. by W. of W and 133 W. by S. of London. Lon. 2. 4 Lat. 50. 56. N.

PETIGLIANO, a town of Etruria, in th enneſe; 8 miles W. of Caſtro, 27. NE. of C tello, 45 SE. of Sienna. Lon. 11. 42. E. La 23. N.

PETILIA. See PETELIA, and STRONG

PETI

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PETINA, a town of Naples, in Principato Citra.

PETIOLARUS CIRRHUS. } See BOTANY,
PETIOLATUM FOLIUM. } *Gloſſary.*

PETIOLE, in botany, the ſlender ſtalks that ſupport the leaves of a plant.

PETIOLUS. See BOTANY, *Index.*

PETIS DE LA CROIX, Francis, a learned French writer, who was ſent into Turkey and Perſia, at the age of 16, to learn the oriental languages; and became interpreter to Lewis XIV. by whom he was employed in various negociations. He wrote part of the life of Lewis XIV. in Arabic, a work much eſteemed in the Eaſt. He died in 1713. He is mentioned with approbation by Voltaire. He underſtood the Arabic, Turkiſh, Perſian, Tartarian, Ethiopian and Armenian languages.

PETISTAGUIT, a river of Canada, which runs into the St Lawrence, in Lon. 66. 26. W. Lat. 50. N.

(1.) PETIT, John, a doctor of the Sorbonne, who very early gained a character by his knowledge and eloquent orations, pronounced before the univerſity of Paris. He was employed in the famous embaſſy which was ſent from France to Rome, for the purpoſe of healing the ſchiſm in 1409; but what chiefly procured him notoriety was his defence of the murder of Lewis D. of Orleans, only brother to Charles VI. maintaining in a public diſputation, at Paris, the 8th of March 1408, that the murder was lawful, and that "it is laudable to employ fraud, treaſon, and every other method, however baſe, to get rid of a tyrant." He died in 1511, at Heſdin.

(2.) PETIT, John Lewis, an eminent ſurgeon, born at Paris in 1674. He was received maſter in ſurgery in 1700; and acquired ſuch reputation in his art, that in 1726 the king of Poland ſent for him to his court, and in 1734 the king of Spain applied on him to go into that kingdom. He eſtabliſhed the health of thoſe princes; and they endeavoured to detain him by offering him great advantages, but he choſe rather to return to France. He was received into the academy of ſciences in 1718, became director of the royal academy of ſurgery; made ſeveral important diſcoveries; and invented new inſtruments for the improvement of ſurgery. He died at Paris in 1750. He wrote an excellent Treatiſe on the Diſeaſes of the Bones, the beſt edition of which is that of 1723; and many eſteemed Diſſertations in the Memoirs of the Academy of Sciences, and in the Memoirs of Surgery, vol. I.

(3.) PETIT, Peter, an eminent French mathematician, born at Montluçon, in 1589. By Richelieu's influence he became engineer to the king, and intendant of fortifications; and was ſent into Italy on the king's buſineſs. He wrote ſeveral works upon phyſical and aſtronomical ſubjects, and died in 1667.

(4.) PETIT, Peter, M. D. a learned French phyſician; born at Paris, in 1617. He graduated at Montpelier; but preferred literary purſuits to practice. He became preceptor to the ſons of the celebrated Lamoignon. He wrote many pieces in proſe and verſe; and was deeply verſed in Greek and Roman literature and philoſophy. He died in 1687, aged 70.

(5.) PETIT, Samuel, a learned Frenchman, born at Niſmes, in 1564. He ſtudied at Geneva, where he became profeſſor of Greek, Hebrew and theology. He publiſhed *Leges Atticæ*, Paris, 1615 and 1633.

(6.) * PETIT. *adj.* [French.] Small; inconſiderable.—By what ſmall *petit* hints does the mind recover a vaniſhing notion? *South.*

(7.) PETITE GUERRE denotes the operations of detached parties, and the war of poſts. See WAR, *Part* III.

(8.) PETIT PORT, a town on the W. coaſt of Newfoundland.

(9.) PETIT PORT, a town on the coaſt of Peru.

(10.) PETIT SERGEANTY. See SERGEANTY.

(11.) PETIT TERRE, one of the Caribbee iſlands near Deſeada. Lon. 61. 11. W. Lat. 16. 14. N.

(12.) PETIT TREASON. See TREASON.

PETIT-CODIAC, a river of N. America, which runs into the Bay of Fundy. It has a communication with St John's River.

PETIT-GUAVES, a town, juriſdiction and bay, on the N. coaſt of the S. peninſula of Hiſpaniola, near the head of the bay of Leogane. It appears to be the ſame with Little Goave. See GOAVE, N° 2. Lon. 72. 25. W. Lat. 18. 27. N.

(1.) * PETITION. *n. ſ.* [*petitio*, Latin.] 1. Requeſt; intreaty; ſupplication; prayer.—We muſt propoſe unto all men certain *petitions* incident and very material in cauſes of this nature. *Hooker.*

My next poor *petition*
Is, that his noble grace would have ſome pity
Upon my wretched women. *Shak.*

—Let my life be given at my *petition*, and my people at my requeſt. *Eſther*, vii. 3.—A houſe of prayer and *petition* for thy people. 1 *Mac.* vii.—We muſt ſend up *petitions* and thoughts now and then to heaven. *Law.* 2. Single branch or article of a prayer.—

This laſt *petition* heard of all her pray'r. *Dryd.*

(2.) PETITION, in law, is a ſupplication made by an inferior to a ſuperior, and eſpecially to one having juriſdiction. It is uſed for that remedy which the ſubject hath to help a wrong done by the king, who hath a prerogative not to be ſued by writ: In which ſenſe it is either general, That the king do him right; whereupon follows a general indorſement upon the ſame, *Let right be done the party:* Or it is ſpecial, when the concluſion and indorſement are ſpecial for this or that to be done, &c. By ſtatute, the ſoliciting, labouring, or procuring the putting the hands or conſent of above 20 perſons to any petition to the king or either houſe of parliament, for alterations in church or ſtate, unleſs by aſſent of three or more juſtices of the peace of the county, or a majority of the grand jury at the aſſizes or ſeſſions, &c. and repairing to the king or parliament to deliver ſuch petition with above the number of ten perſons, is ſubject to a fine of 100 l. and three months impriſonment, being proved by two witneſſes within ſix months, in the court of *B. R.* or at the aſſizes, &c. And if what is required by this ſtatute be obſerved, care muſt be taken that petitions to the king contain nothing which may be interpreted to

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reflect on the administration; for if they do, it may come under the denomination of a libel: and it is remarkable, that the petition of the city of London for the sitting of a parliament was deemed libellous, because it suggested that the king's dissolving a late parliament was an obstruction of justice; also the petition of the seven bishops, sent to the Tower by James II. was called a libel, &c. To subscribe a petition to the king, *to frighten him into a change of his measures, intimating, that if it be denied many thousands of his subjects will be discontented*, &c. is included among the contempts against the king's person and government, tending to weaken the same, and is punishable by fine and imprisonment.

* *To* PETITION. *v. a.* [from the noun.] To solicit; to supplicate.—

You have *petition'd* all the gods
For my prosperity. *Shak.*

—The mother *petitioned* her goddess to bestow upon them the greatest gift that could be given. *Addison.*

* PETITIONARILY. *adv.* [from *petitionary.*] By way of begging the question.—This doth but *petitionarily* infer a dextrality in the heavens. *Brown.*

* PETITIONARY. *adj.* [from *petition.*] 1. Supplicatory; coming with petitions.—

Pardon thy *petitionary* countrymen. *Shak.*
It is our base *petitionary* breath
That blows 'em to this greatness. *Ben Jonson.*

2. Containing petitions or requests.—*Petitionary* prayer belongeth only to such as are in themselves impotent. *Hooker.*—I return only yes or no to questionary and *petitionary* epistles. *Swift.*

* PETITIONER. *n. s.* [from *petition.*] One who offers a petition.—When you have received the petitions, and it will please the *petitioners* well to deliver them into your hand. *Bacon.*—What pleasure can it be to be encumbered with dependences, thronged and surrounded with *petitioners? South.*—Their prayers are to the reproach of the *petitioners. L'Estrange.*—

Tears, the dumb *petitioners* of grief. *Dryden.*

—The Roman matrons presented a petition to the fathers; this raised so much raillery upon the *petitioners*, that the ladies never again offered to direct the lawgivers of their country. *Addison.*

PETITIO PRINCIPII, in logic, the taking a thing for true, and drawing conclusions from it as such, when it is really false; or at least wants to be proved before any inferences can be drawn from it.

(1.) * PETITORY. *adj.* [*petitorius*, Lat. *petitoire*, Fr.] Petitioning; claiming the property of any thing. *Ainsworth.*

(2.) PETITORY ACTION, in Scots law. See LAW, *Part* III. *Chap.* III. *Sect.* I.

PETITOT, John, a curious painter in enamel, born at Geneva in 1609. He arrived to a degree of perfection that may almost be accounted inimitable. He however, only painted the heads and hands of the figures: the hair, grounds, and drapery, being executed by Bordier his brother-in-law. These two artists had the credit of labouring together for 50 years, in the greatest harmony. He painted the portraits of Charles I. and his family. He then went to Paris, where he was highly favoured by Lewis XIV. and acquired an ample fortune. Being a Protestant, the revocation of the edict of Nantes obliged him to retire to Geneva; but settling soon after at Veray in Bern, he passed the remainder of his life in affluence. He died in 1691; and had 17 children: of whom one took to painting, and settled at London, where he gained reputation; but was much inferior to his father. Petitot may be called the *inventor* of painting portraits in enamel. He made use of gold and silver plates, and seldom enamelled on copper. His price was 20 louises a head, which he soon raised to 40.

PETITPIERRE, Ferdinand Oliver, an eminent Protestant French divine, who flourished about the beginning of the 18th century. He was minister of a church in Chaux De Fond, and published a work entitled, *Thoughts on the divine goodness*; divided into 3 chapters, containing the definition, Proofs, and Consequences, of the infinite goodness of God. This work has gone through many editions, and has been translated into English and other languages. But one of the chief tenets included in it, being, that the State of future punishment, (which, however, he places in a most terrific point of view,) is not eternal, but that all men will be finally happy, he was prohibited from preaching, and afterwards degraded. A translation of this work was published at Edinburgh in 1799, 12mo.

PETIVER, James, F. R. S. an eminent English botanist, contemporary with Plukenet. He was bred an apothecary with Mr Feltham, of St Bartholomew's hospital. He settled in Aldersgate Street, and became apothecary to the Charter-house. He made a collection in natural history, so valuable, that Sir Hans Sloane offered him £.400 for it before his death, and purchased it afterwards. He was elected F. R. S. and assisted Ray in the 3d vol. of his *History of Plants*. He engaged the captains and surgeons of ships to bring him curious specimens of foreign plants; and enabled them to select proper objects by printed directions. He wrote 1. *Musæi Petiveriani centuriæ decem*; 1703; 8vo. 2. *Gazophylacii Naturæ et artis decades decem*: fol. 1702; with 100 plates. 3. A catalogue of Mr Ray's English Herbal. fol. 1715. 4. Many small tracts enumerated in Pultney's book. 5. Many papers in the *Phil. Transf.* 6. *Plantæ rariores Chinenses, Madrassanæ et Africanæ*, &c. in Ray's 3d Vol. His works were reprinted in 1764 in 2 vols. fol. and one vol. He died 20th April 1718; and his funeral was honoured by the literati.

PETIVERIA, in botany, *Guinea-Hen-weed*, a genus of the tetragynia order, belonging to the hexandria class of plants: and in the natural method ranking under the 12th order, *Holoracæ*. The calyx is tetraphyllous; there is no corolla; and but one seed, with reflexed awns at the base.

PETKUM, a town of Germany, in East Friesland, 3 miles SE. of Embden.

(1.) PETOUNE HOTUN, a town of Chinese Tartary, in Kirin Oula; 485 miles NE. of Pekin. Lon. 142. 20. E. Ferro. Lat. 45. 15. N.

(2.) PETOUNE KIAMEN, a port of Chinese Tartary; 9 miles NW. of Petonne Hotun.

(1.) PETRA, a town of Greece, on the c

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of Illyricum, near Dyrrhachium and the mouth of the Panyasus. *Cæs. Lucian.*

(2.) PETRA, a town of Mædica, a district of Thrace, lying towards Macedonia; but in what part of Macedonia Livy does not say.

(3.) PETRA, PETRÆA, or PETRINA, (*urbs* being understood) an inland town of Sicily, SW. of Agyrum; now called PETRAGLIA. *Cluverius, Sic. Sil. Ital.*

(4—7.) PETRA was also the name of 4 other ancient towns; viz. 1. in Pieria in Macedon: (*Liv.*) 2. near Dyrrhachium. (*Lucan. Cæs.*) 3. in Asia: and 4. near Corinth.

(8.) PETRA, a town in the isle of Metelin.

(9.) PETRA, a town of Sicily, in Mazara; 2 m. NW. of Girgendi.

(10.) PETRA, a river of Naples, which runs into the sea; 13 miles NE. of Bova.

(11.) PETRA JECKTAEL, a town of the Amalekites, near the Adscensus Scorpionis, and the Lake of Salt in the S. of Judæa: afterwards in the possession of the Edomites, after destroying the Amalekites. 2 Kings xiv. Judg. i.

(12.) PETRA RECEM, or REKEM, so called from Rekem king of the Midianites, slain by the Israelites; (Num. xxxi.) a town of Arabia, formerly called *Arce*, or *Petra*: the capital of Arabia Petræa. (*Josephus.*) Ptolemy places it in Lon. 66. 30. from the Fortunate Islands, and Lat. 30. 20. declines 80 miles to the S. of the parallel of Jericho, and 36 miles, more or less, from its position to the E. Josephus says, that the mountain on which Aaron died stood near Petra; which he calls the capital of the Nabatæi; at the distance of three or four days journey from Jericho. This Petra seems to be the *Sela* of Isaiah xvi. 1. and xlii. 11. from the Hebrew name, *Petra a rock*. But some imagine Petra to be no older than the time of the Macedonians.

PETRÆ. See MINERALOGY, *Part* II. *Chap.* II.

PETRÆA. See PETRA, N° 3.

PETRAFITTA, a town of Naples, in Calabria Citra; 5 miles ESE. of Cosenza.

PETRAGLIA, a town of Sicily. See PETRA, 3.

PETRARCH, Francis, a celebrated Italian poet, born at Arezzo in 1304. He studied grammar, rhetoric, and philosophy, 4 years at Carpentras; whence he went to Montpelier, where he studied the law. His father and mother dying of the plague at Avignon, he returned to that city at 22 years of age to settle his domestic affairs, and purchased a country house in a very solitary and agreeable situation, called *Vaucluse*; where he first saw the beautiful Laura, with whom he fell in love, and whom he has immortalised in his verses. He travelled into France, the Netherlands, and Germany; and at his return to Avignon entered into the service of Pope John XXII. who employed him in several important affairs. Petrarch expected some considerable posts; but being disappointed, he applied himself entirely to poetry; in which he met with such applause, that in the same day he received letters from Rome and Paris inviting him to receive the poetic crown. He preferred Rome, and received that honour from the senate and people on the 8th April 1341. His love of solitude at length induced him to return to Vaucluse; but, after the death of the beautiful Laura, Provence became insupportable to him, and he returned to Italy in 1352; when, being at Milan Galeas Viceconti made him counsellor of state. Petrarch spent almost all the rest of his life in travelling to and from the different cities in Italy. He was archdeacon of Parma, and canon of Padua; but never received the order of priesthood. All the princes and great men of his time gave him public marks of their esteem; and while he lived at Arequa, 3 miles from Padua, the Florentines sent Boccace to him with letters, inviting him to Florence, and informing him, that they restored to him all the estate of which his father and mother had been deprived during the dissensions between the Guelphs and Gibelines. He died a few years after at Arequa, in 1374. He wrote many works that have rendered his memory immortal; printed in 4 volumes folio. His life has been written by several authors; particularly by Mrs Susanna Dobson, in 2 vols. 8vo.

PETRASTRUMIA, a town of Naples in Principato Ultra; 9 miles S. of Benevento.

PETRATSCHEN, a town of Prussian Lithuania, 4 miles WSW. of Ragnitz.

(1.) * PETRE. *n. s.* [from *petra*, a stone.] Nitre; salt petre. See NITRE.—Powder made of impure and greasy *petre*, hath but a weak emission, and gives but a faint report. *Brown.*—The vessel was first well sealed to prevent cracking, and covered to prevent the falling in of any thing, that might unseasonably kindle the *petre*. *Boyle.*—Nitre, when it is in its native state, is called *petre*-salt, when refined salt-*petre*. *Woodward.*

(2.) PETRE, or SALTPETRE, in chemistry. See CHEMISTRY, *Index*, and NITRE.

PETREA, in botany, a genus of the angiospermia order, belonging to the didynamia class of plants; and in the natural method ranking under the 40th order; *Personatæ*. The calyx is quinquepartite, very large, and coloured; the corolla rotaceous; the capsule bilocular, and situated in the bottom of the calyx; the seeds solitary. There is only one species, a native of New Spain. It rises to 15 or 16 feet, with a woody stalk covered with grey bark, sending out several long branches. These have a whiter bark than the stem, and are garnished with leaves at each joint, which, on the lower part of the branches, are placed by three round them; but higher up, they are rough, and have a rough surface. The flowers are produced at the ends of the branches, in loose bunches 9 or 10 inches long, each flower standing on a slender flower-stalk about an inch long: the empalement of the flower is composed of 5 narrow obtuse leaves about an inch long, which are of a fine blue colour, and much more conspicuous than the petals which are white, and not more than half the length of the empalement. The plant is propagated by seeds procured from the places where they are natives, and of which very few are good. The seeds must be sown in a good hot-bed; and when the plants come up, they should all be planted in a separate small pot filled with light loamy earth, and plunged into a

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hot-bed of tanners bark, where they ſhould afterwards conſtantly remain.

PETREL, *n. ſ.* See PROCELLARIA, N° 1 and 2.

(1.) PETRELLA, a town of Naples, in Moliſe; 11 miles E. of Moliſe.

(2.) PETRELLA, a town of European Turkey, in Albania; 26 miles SE. of Durazzo.

* PETRESCENT. *adj.* [*petreſcens*, Lat.] Growing ſtone; becoming ſtone.—A cave, from whoſe arched roof there dropped down a *petreſcent* liquor. *Boyle.*

PETRI, a town of Africa, on the Ivory Coaſt.

PETRICOW, a town of Bohemia, in Chrudim; 9 miles S. of Chrudim.

PETRIDIA, in the old ſyſtem of mineralogy, a genus of ſcrupi, of a plain, uniform texture; of no great variety of colours, and emulating the external form of pebbles.

(1.)* PETRIFACTION. *n. ſ.* [from *petrifio*, Lat.] 1. The act of turning to ſtone; the ſtate of being turned to ſtone.—Its concretive ſpirit has the ſeeds of *petrifaction* and gorgon within itſelf. *Brown.* 2. That which is made ſtone.—Beautiful ſhells, *petrifactions*, ores, minerals, ſtones, and other natural curioſities. *Cheyne.*

(2.) PETRIFACTION, in phyſiology, denotes the converſion of wood, bones, and other ſubſtances, principally animal or vegetable, into ſtone. Theſe bodies are more or leſs altered from their original ſtate, according to the different ſubſtances they have lain buried among in the earth; ſome of them having ſuffered very little change, and others being ſo highly impregnated with cryſtalline, ſparry, pyritical, or other extraneous matter, as to appear mere maſſes of ſtone, or lumps of the matter of the common pyrites; but they are generally of the external dimenſions, and retain more or leſs of the internal figure, of the bodies into the pores of which this matter has made its way. The animal ſubſtances thus found petrified are chiefly ſea-ſhells; the teeth, bony palates, and bones, of fiſh; the bones of land-animals, &c. Theſe are found variouſly altered, by the inſinuation of ſtony and mineral matter into their pores; and the ſubſtance of ſome of them is now wholly gone, there being only ſtony, ſparry, or other mineral matter remaining in their ſhape and form.

(3.) PETRIFACTION, DISCOVERIES RESPECTING. Reſpecting the manner in which petrifaction is accompliſhed, we know little. It has been thought by many philoſophers, that this was one of the rare proceſſes of nature; and accordingly ſuch places as afforded a view of it, have been looked upon as great curioſities. However, it is now diſcovered, that petrifaction is exceedingly common; and that every kind of water carries in it ſome earthy particles, which being precipitated from it, become ſtone of a greater or leſſer degree of hardneſs; and this quality is moſt remarkable in thoſe waters, which are much impregnated with ſelenitic matter. Of late, it has alſo been found by ſome obſervations of a petrifaction in Eaſt Lothian, that iron contributes greatly to the proceſs: and this it may do by its precipitation of any aluminous earth which happens to be diſſolved in the water by means of an acid; for iron has the property of precipitating this earth, though it cannot precipitate the calcareous kind. The calcareous kinds of earth, however, by being ſoluble in water without any acid, muſt contribute very much to the proceſs of petrifaction, as they are capable of a great degree of hardneſs by means of being joined with fixed air, on which depends the ſolidity of our common cement or mortar uſed in building houſes. The name *petrifaction* belongs only to bodies of vegetable or animal origin; and to determine their claſs and genus, or even ſpecies, it is neceſſary that their texture, their primitive form, and in ſome meaſure their organization, be ſtill diſcernible. Thus we ought not to place the ſtony kernels, moulded in the cavity of ſome ſhell or other organized body, in the rank of petrifactions properly ſo called.

(4.) PETRIFACTION, FORMATION, CAUSES AND PROGRESS OF. Petrifactions of the vegetable kingdom are almoſt all either gravelly or ſiliceous; and are found in gullies, trenches, &c. Thoſe which ſtrike fire with ſteel are principally found in ſand fiſſures; thoſe which effervesce in acids are generally of animal origin, and are found in the horizontal beds of calcareous earth, and ſometimes beds of clay or gravel; in which caſe the nature of the petrifaction is different. As to the ſubſtances which are found in gypſum, they ſeldom undergo any alteration, either with reſpect to figure or compoſition, and they are very rare. Organized bodies, in a ſtate of petrifaction, generally acquire a degree of ſolidity of which they were not poſſeſſed before they were buried in the earth, and ſome of them are often fully as hard as the ſtones or matrices in which they are enveloped. When the ſtones are broken, the fragments of petrifactions are eaſily found, and eaſily diſtinguiſhed. There are ſome organized bodies, however, ſo changed by petrifaction, as to render it impoſſible to diſcover their origin. That there is a greater or leſs agitated, and adapted for petrifying bodies, which crumbles and ſeparates the parts, draws them along with it, and diſpoſes them here and there in the fluid which ſurrounds them, is a fact of which nobody ſeems to entertain any doubt. Indeed we ſee almoſt every ſubſtance, whether ſolid or liquid, inſenſibly conſumed, diminiſh in bulk, and at laſt, in the laſpe of time, vaniſh and diſappear. A petrified ſubſtance, ſtrictly ſpeaking, is nothing more than the ſkeleton, or perhaps image of a body which has once had life, either animal or vegetable, combined with ſome mineral. Thus petrified wood is not in that ſtate wood alone. One part of the compound or maſs of wood having been deſtroyed by local cauſes, has been compenſated by earthy and ſandy ſubſtances, diluted and extremely minute, which the waters ſurrounding them had depoſited while they themſelves evaporated. Theſe earthy ſubſtances, being then moulded in the ſkeleton, will be more or leſs indurated, and will appear to have its figure, its ſtructure, its ſize, in a word the ſame general characters, the ſame ſpecific attributes, and the ſame individual differences. Farther, in petrified wood, no veſtige of ligneous matter appears to exiſt. We know that common wood is a body in which the volume of ſolid part is greatly exceeded by that of the pores. When wood is buried in certain places, lapidific fluid extreme

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extremely divided and sometimes coloured, insinuate themselves into its pores and fill them up. These fluids are afterwards moulded and condensed. The solid part of the wood is decomposed and reduced into powder, which is expelled without the mass by aqueous filtrations. In this manner, the places which were formerly occupied by the wood are now left empty in the form of pores. This operation of nature produces no apparent difference either of the size or of the shape; but in occasions, both at the surface and in the inside, a change of substance, and the ligneous texture is inverted; that is to say, that which was pore in the natural wood, becomes solid in that which is petrified; and that which was solid or full in the natural state, becomes porous in the second. In this way, says M. Musard, petrified wood is much less expanded in pores than solid parts, and at the same time forms a body much more dense and heavy than the first. As the pores communicate from the circumference to the centre, the petrifaction ought to begin at the centre, and end with the circumference of the organic body subjected to the action of the lapidific fluids. Such is the origin of petrifactions. They are organized bodies which have undergone changes at the bottom of the sea or the surface of the earth, and which have been buried by various accidents at different depths under the ground. To understand properly the detail of the formation of petrified bodies, it is necessary to be well acquainted with all their constituent parts. Let us take wood for an example. Wood is partly solid and partly porous. The solid parts consist of a substance, hard, ligneous and compact, which forms the support of the vegetable; the porous parts consist of vessels and orifices which run vertically and horizontally across the ligneous fibres, and which serve for conducting air, lymph, and other fluids. Among the vessels, the trachiæ which rise in spiral forms, and which contain only air, are easily distinguished. The cylindric vessels, some of which contain lymph, and others the *succus proprius*, are full only during the life of the vegetable. After its death they become vacant by the evaporation and absorption of the fluids with which they were formerly filled. All these vessels, whether ascending or descending, unite with one another, and form large cavities in the wood and in the bark. According to Malphigi and Duhamel, the ligneous fibres are themselves tubular, and afford a passage to certain liquors; in short, the wood and bark are interspersed with utriculi of different shapes and size. The augmentation of the trunk in thickness, according to Malphigi, is accomplished by the annual addition of a new exterior covering of bark and of trachiæ. Others think that a concentric layer of sap-wood is every year hardened, whilst a new one is forming from the bark. It is on all sides agreed, that the concentric layers of wood are distinct from one another, because at the point of contact betwixt any two of them the new vessels, as well as new fibres, are more apparent and perceptible than they are in any other place.

PETRIFACTIONS, M. BERTRAND'S THEORY OF THE CAUSES OF. In order, says M. Bertrand, in his *Dictionnaire des Fossiles*, that a body should become petrified, it is necessary that it be, 1. Capable of preservation under ground: 2. That it be sheltered from the air and running water (the ruins of Herculaneum prove that bodies which have no connection with free air, preserve themselves untouched and entire). 3. That it be secured from corrosive exhalations. 4. That it be in a place where there are vapours or liquids, loaded either with metallic or stony particles in a state of dissolution, and which, without destroying the body, penetrate it, impregnate it, and unite with it, in proportion as its parts are dissipated by evaporation.

(6.) PETRIFACTION, M. MONGEZ'S THEORY OF. M. Mongez explains the petrifaction of vegetables as follows: In proportion to the tenderness and bad quality of wood, it imbibes the greater quantity of water; therefore this sort will unquestionably petrify more easily than that which is hard. It is thought that all the petrified wood so often found in Hungary has been originally soft, such as firs or poplars. Suppose a piece of wood buried in the earth; if it be very dry, it will suck up the moisture which surrounds it like a sponge. This moisture, by penetrating it, will dilate all the parts of which it is composed. The trachiæ, or air vessels will be filled first, and then the lymphatic vessels and those which contain the *succus proprius*, as they are likewise empty. The water which forms this moisture keeps in dissolution a greater or a less quantity of earth; and this earth, detached, and carried along in its course, is reduced to such an attenuated state, that it escapes our eyes and keeps itself suspended, whether by the medium of fixed air or by the motion of the water. Such is the lapidific fluid. Upon evaporation, or the departure of the menstruum, this earth, sand, or metal, again appears in the form of precipitate or sediment in the cavities of the vessels, which by degrees are filled with it. This earth is there moulded with exactness: The lapse of time, the simultaneous and partial attraction of the particles, make them adhere to one another; the lateral suction of the surrounding fibres, the obstruction of the moulds, and the hardening of the moulded earth, become general; and there consists nothing but an earthy substance which prevents the sinking of the neighbouring parts. If the deposit is formed of a matter in general pretty pure, it preserves a whiter and clearer colour than the rest of the wood; and as the concentric layers are only perceptible and distinct in the wood, because the vessels are there more apparent on account of their size, the little earthy cylinders, in the state of petrified wood, must be there a little larger, and consequently must represent exactly the turnings and separations of these layers. At the places of the utriculi, globules are observed, of which the shapes are as various as the moulds wherein they are formed. The anastomoses of the proper and lymphatic vessels, form besides points of support or reunion for this stony substance. With regard to holes formed by worms in any bits of wood, before they had been buried in the earth, the lapidific fluid, in penetrating these great cavities, deposits there as easily the earthy sediment, which is exactly moulded in them. These vermiform cylinders are somewhat

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leſs in bulk than the holes in which they are found, which is owing to the retreat of the more refined earth, and to its drying up. Let any one repreſent to himſelf this collection of little cylinders, vertical, horizontal, inclined in different directions, the ſtony maſſes of utriculi and of anaſtomoſes, and he will have an idea of the ſtony ſubſtance which forms the ground-work of petrifaction. Hitherto not a ſingle ligneous part is deſtroyed; they are all exiſting, but ſurrounded on every ſide with earthy depoſits; and that body which, during life, was compoſed of ſolid and of empty parts, is now entirely ſolid; its deſtruction and decompoſition do not take place till after the formation of theſe little depoſits. In proportion as the water abandons them, it penetrates the ligneous ſubſtance, and deſtroys it by an inſenſible fermentation. The woody fibres being decompoſed, form in their turn voids and interſtices, and there remains in the whole piece nothing but little ſtony cylinders. But in proportion as theſe woody fibres diſappear, the ſurrounding moiſture, loaded with earth in the ſtate of diſſolution, does not fail to penetrate the piece of wood, and to remain in its new cavities. The new depoſit aſſumes exactly the form of the decompoſed fibres; it envelopes in its turn the little cylinders which were formed in their cavities, and ends by incorporating with them. We may ſuppoſe here, that in proportion as it decompoſes, there is a reaction of the ligneous part againſt the lapidific fluid: from this reaction a colour ariſes which ſtains more or leſs the new depoſit; and this colour will make it eaſily diſtinguiſhable from that which has been laid in the inſide of the veſſels. In all petrified wood this ſhade is generally perceptible. We have then, ſays M. Mongez, 4 diſtinct epochs in the proceſs by which nature converts a piece of wood into ſtone, or, to ſpeak more juſtly, by which ſhe ſubſtitutes a ſtony depoſit in its place: 1. Perfect vegetable wood, that is to ſay, wood compoſed of ſolid and of empty parts, of ligneous fibres, and of veſſels. 2. Wood having its veſſels obſtructed and choaked up by an earthy depoſit, while its ſolid parts remain unaltered. 3. The ſolid parts attacked and decompoſed, forming new cavities betwixt the ſtony cylinders, which remain in the ſame ſtate, and which ſupport the whole maſs. 4. Theſe new cavities filled with new depoſits, which incorporate with the cylinders, and compoſe nothing elſe but one general earthy maſs repreſenting exactly the piece of wood. Among the petrifactions of vegetables called *dendrolites*, are found parts of ſhrubs, ſtems, roots, portions of the trunk, ſome fruits, &c. We muſt not, however, confound the impreſſions of moſſes, ferns, and leaves, nor incruſtations, with petrifactions. Among the petrifactions of animals, we find ſhells, cruſtaceous animals, polyparii, ſome worms, the bony parts of fiſhes and of amphibious animals, few or no real inſects, rarely birds and quadrupeds, together with the bony portions of the human body. The cornua ammonis are petrified ſerpents; and with regard to figured and accidental bodies, theſe are *luſus naturæ*.

(7.) PETRIFACTION, NATURE'S PERIODS OF ACCOMPLISHING. It is a queſtion of great importance among naturaliſts, to know the ti which Nature employs in petrifying bodies of ordinary ſize.—It was the wiſh of the late emp ror, that ſome means ſhould be taken for det mining this queſtion. M. le Chevalier de Bai director of the cabinet of natural hiſtory of his perial majeſty, and ſome other naturaliſts, h ſeveral years ago, the idea of making a rele which might throw ſome light upon it. His perial majeſty being informed by the unanim obſervations of modern hiſtorians and geograph that certain pillars which are actually ſeen in Danube in Gervia, near Belgrade, are remain the bridge which Trajan conſtructed over tha ver, preſumed that theſe pillars having bee ſerved for ſo many ages, behoved to be petri and that they would furniſh ſome informa with regard to the time which nature empl changing wood into ſtone. The emperor ing this hope well founded, and wiſhing to his curioſity, ordered his ambaſſador at the of Conſtantinople to aſk permiſſion to take up the Danube one of the pillars of Trajan's br The petition was granted, and one of the was accordingly taken up; from which it a ed that the petrifaction had only advanced fourths of an inch in the ſpace of 1500 There are, however, certain waters in whic tranſmutation is more readily accompliſhed trifactions appear to be formed more ſlow earths that are porous and in a ſlight degree than in water itſelf. When the foundatio the city of Quebec in Canada were dug up trified ſavage was found among the laſt h which they proceeded. Although there idea of the time at which this man had been under the ruins, it is however true, that hi ver and arrows were ſtill well preſerved. ging a lead mine in Derbyſhire in 1744, a ſkeleton was found among ſtags horns. It poſſible to ſay how many ages this carca lain there. In 1695 the entire ſkeleton of phant was dug up near Tonna in Thu Some time before this epoch the petrified ton of a crocodile was found in the mines country. We might cite another fact equ rious, which happened at the beginning laſt century. John Munte, curate of Sieg Scania, and ſeveral of his pariſhioners, wi procure turf from a drained marſhy ſoil, ſome feet below ground, an entire cart wi ſkeletons of the horſes and carter. It is pre that there had formerly been a lake in that and the carter attempting to paſs over on t had by that means probably periſhed. In fine, partly foſſil and partly coaly has been foun great depth, in the clay of which tile was for the Abbey of Fontenay. It is but very that foſſil wood was diſcovered at the de 75 feet in a well betwixt Iſſi and Vauvr Paris. This wood was in ſand betwixt a clay and pyrites, and water was found fo lower than the pyrites. M. de Laumont, tor general of the mines, ſays (*Journal de P* Mai 1736), that in the lead-mine at Pontpé Rennes, is a fiſſure, perhaps the only one kind. In that fiſſure, ſea-ſhells, rounded pe

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ped at entire beech, have been found 240 feet deep. This beech was laid horizontally in the direction of the fiſſure. Its bark was converted into pyrites, the ſap-wood into jet, and the centre into coal. Many pieces of petrified wood are found in different departments of France, and particularly in that of Mont Blanc, the ci-devant Savoy. In Cobourg in Saxony, and in the mountains of Miſnia, trees of a conſiderable bigneſs have been taken from the earth, which are entirely changed into a very fine agate, alſo their branches and their roots. In ſawing them, the annual circles of their growth have been diſtinguiſhed. Pieces have been taken on which it was diſtinctly ſeen that they had been gnawed by worms; others bear viſible marks of the hatchet. In fine, pieces have been found which were petrified at one end, while the other remained in the ſtate of wood fit for being uſed. It appears then that petrified wood is a much leſs rare in nature than is commonly imagined.

Petrifaction, Obſervations of Mr. Cronstedt and Kirwan respecting. Cronſtedt has excluded petrifactions from place in the body of his ſyſtem of mineralogy, and takes notice of them in his appendix. He diſtinguiſhes them by the name of *Mineralia Larvata*, and defines them to be "mineral bodies in the form of animals or vegetables." The moſt remarkable obſervations concerning them, according to Mr Kirwan, who differs in ſome particulars from Mongez, are as follow. 1. Thoſe of birds are found on or near the ſurface of the earth; thoſe of fiſh deeper; and thoſe of quadrupeds ſtill deeper. Shells in ſubſtance are found in great quantities, and at conſiderable depths. 2. Subſtances moſt ſuſceptible of petrifaction are thoſe which moſt reſiſt the putrefactive fermentation; of which kind are ſhells, the harder parts of wood, &c.; while the ſofter parts of animals, which eaſily putrefy, are ſeldom met with in a petrified ſtate. 3. They are moſt frequently found in ſtrata of marl, chalk, lime-ſtone, or clay; ſeldom in ſandſtone, ſtill more ſeldom in gypſum; and never in gneiſs, granite, ſchiſt, or ſchoerl. Sometimes they are found in mines, and ores of iron, copper, and ſilver; being almoſt always of that kind of earth or mineral which ſurrounds them; ſometimes in flint, agate, or cornelian. 4. They are found in ſtrata where the animals themſelves could never have exiſted. 5. Thoſe found in ſlate or ſtone are compreſſed and flattened.

Petrifactions, Cronstedt's arrangement of. The different ſpecies of petrifactions, according to Cronſtedt, are, I. *Terræ Larvatæ*; calcareous bodies changed into a limy ſubſtance, without calcareous changes. Theſe are, 1. Looſe or friable. 2. Indurated. The former are of a chalky nature, in form of vegetables or animals; ſometimes filled with ſolid limeſtone in the ſame form. Some are found entirely changed into a calcareous ſpar. All of them are found in France, Italy, and other countries in great plenty. On petrifactions Cronſtedt obſerves, that ſhells and corals are compoſed of limy matter even when full inhabited by their animals, but they are claſſed among the petrifactions as ſoon as the calcareous particles have obtained a new arrangement; for example, when they have become ſparry; filled with calcareous earth either hardened or looſe, or when they lie in the ſtrata of the earth. "Theſe, ſays he, form the greateſt part of the foſſil collections which are ſo induſtriouſly made, often without any regard to the principal and only uſe they can be of, viz. that of enriching zoology. Mineralogiſts are ſatisfied with ſeeing the poſſibility of the changes the limeſtone undergoes in regard to its particles; and alſo with receiving ſome inſight into the alteration which the earth has been ſubject to, from the ſtate of the ſtrata which are now found in it." The calcined ſhells, where the petrifactions are of a limy or chalky nature, anſwer extremely well as a manure; but the indurated kind ſerve only for making grottoes. Gypſeous petrifactions are extremely rare; however, Chardin informs us, that he had ſeen a lizard incloſed in a ſtone of that kind in Perſia. II. *Larvæ*, or bodies changed into a flinty ſubſtance. Theſe are all indurated, and are of the following ſpecies: 1. Cornelians in form of ſhells from the river Tomm in Siberia. 2. Agate in form of wood; a piece of which is ſaid to be in the collection of the Count de Teſſin. 3. Coralloids of white flint *(Millepora)* found in Sweden. 4. Wood of yellow flint found in Italy, in Turkey near Adrianople, and produced by the waters of Lough-neagh in Ireland. III. *Larvæ Argillaceæ*; where the bodies appear to be changed into clay. Theſe are found either looſe and friable, or indurated. Of the former kind is a piece of porcelain clay, met with in a certain collection, with all the marks of the root of a tree upon it. Of the latter kind is the oſteocolla; which is ſaid to be the roots of the poplar tree changed, and not to conſiſt of any calcareous ſubſtance. A ſort of foſſile ivory, with all the properties of clay, is ſaid likewiſe to be found in ſome places. IV. *Larvæ Inſalitæ*; where the ſubſtances are impregnated with great quantities of ſalts. Human bodies have been twice found impregnated with vitriol of iron in the mine of Fahlun, in the province of Dalarne in Sweden. One of them was kept for ſeveral years in a glaſs-caſe, but at laſt began to moulder and fall to pieces. Turf and roots of trees are likewiſe found in water ſtrongly impregnated with vitriol. They do not flame, but look like a coal in a ſtrong fire; neither do they decay in the air. V. Bodies penetrated by mineral inflammable ſubſtances. 1. By pit-coal, ſuch as wood; whence ſome have imagined coal to have been originally produced from wood. Some of theſe ſubſtances are fully ſaturated with the coaly matter; others not. Among the former Cronſtedt reckons jet; among the latter the ſubſtance called *mumia vegetabilis*, which is of a looſe texture, reſembling amber, and may be uſed as ſuch. 2. Thoſe penetrated by aſphaltum or rock-oil. The only example of theſe given by our author is a kind of turf in the province of Skone in Sweden. The Egyptian mummies, he obſerves, cannot have any place among this ſpecies, as they are impregnated artificially with aſphaltum, in a manner ſimilar to what happens naturally with the wood and coaly matter in the laſt

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laſt ſpecies. 3. Thoſe impregnated with ſulphur which has diſſolved iron, or with *pyrites*. Human bodies, bivalve and univalve ſhells and inſects, have been all found in this ſtate; and the laſt are found in the alum ſtate at Andrarum, in the province of Skone in Sweden. VI. *Larvæ metalliferæ*; where the bodies are impregnated with metals. Theſe are, 1. Covered with native ſilver; which is found on the ſurface of ſhells in England. 2. Where the metal is mineralized with copper and ſulphur. Of this kind is the Fahietz, or grey ſilver ore, in the ſhape of ears of corn, and ſuppoſed to be vegetables, found in argillaceous ſlate at Frankenberg and Tahlitteren in Heſſe. 3. *Larvæ cupriferæ*, where the bodies are impregnated with copper. To this ſpecies principally belong the Turquoiſe or Turkey ſtones, improperly ſo called; being ivory and bones of the elephant or other animals impregnated with copper. See TURQUOISE. At Simore in the ci-devant Languedoc, there are bones of animals dug up, which, during calcination, aſſume a blue colour: but according to Cronſtedt it is not probable that theſe owe their colour to copper. 3. With mineraliſed copper. Of theſe our author gives two examples. One is where the copper is mineraliſed with ſulphur and iron, forming a yellow marcaſitical ore. With this ſome ſhells are impregnated which lie upon a bed of loadſtone in Norway. Other petrifactions of this kind are found in the form of fiſh in different parts of Germany. The other kind is where the copper is impregnated with ſulphur and ſilver. Of this kind is the grey ſilver ore, like ears of corn, found in the ſlate quarries at Heſſe. 4. *Larvæ ferriferæ*, with iron in form of a calx, which has aſſumed the place or ſhape of extraneous bodies. Theſe are either looſe or indurated. Of the looſe kind are ſome roots of trees found at the lake Algelma in Finland. The indurated kinds are exemplified in ſome wood found at Orbiſſan in Bohemia. 5. Where the iron is mineralized, as in the *pyritaceous larvæ!* VII. Where the bodies are tending to decompoſition, or in a way of deſtruction. Among theſe, our author enumerates MOULD and TURF, which ſee: alſo CEMENT, MORTAR, ROCK, SAND, SELENITÆ, STONE, and WATER. See likewiſe FOSSIL, and MOUNTAIN.

(10.) PETRIFACTION, SINGULAR ANIMAL. The Abbé De Sauvages, celebrated for his refined taſte and knowledge in natural hiſtory, in a tour through Languedoc, between Alais and Uzes, met with a narrow vein of no more than two toiſes wide, which croſſes the road, and is bordered on one ſide by a grey dirty ſoil, and on the other by a dry ſandy earth, each of a vaſt extent, and on a level with the narrow vein which ſeparates them. In this narrow vein only are contained petrified ſhells, cemented together by a whitiſh marl. They are in prodigious plenty; among which there is one ſpecies which the Abbé does not remember to have anywhere deſcribed. This ſhell has the ſhape of a horn, ſomewhat incurvated towards the baſe. (See *fig.* 9. *plate* CCLXXIII.) It ſeems compoſed of ſeveral cups, let into each other, which are ſometimes found ſeparate. They have all deep channels, which extend, as in many other ſhells, from the baſe to the aperture; the projecting ribs which form theſe channels ar moſtly worn away, being rarely to be found e entire. Sometimes ſeveral are grouped togethe and as a proof that they are not a fortuitous a ſemblage cauſed by the petrifaction, they are fi ed together through their whole length, in ſu ſort, that their baſe and aperture are regularly tu ned the ſame way. The Abbé ſhould have refe red this to the genus which Linnæus and the Ma quis d'Argenville named *dentalis*, had they n been let into each other. He found ſome of th whoſe aperture or hollow was not ſtopped up the petrifaction, and ſeemed as cones adapted one another (*fig.* 10.), forming a row of narr cells, ſeparated by a very thin partition: this r occupied not more than one half of the cavity the ſhell.—Foſſil bones are very common in D matia. They are of various kinds, and in e nature apparently very extraordinary; but have found no tolerable account or probable e jecture of their origin. Vitaliano Donati of dua, in his *Saggio ſopra la ſtorie naturale del driatico*, was the firſt who took notice of th and Fortis, in his travels into Dalmatia, has g a copious account of them. They are moſt c mon in the iſlands of CHERSO and OSERO. Fortis's Travels into Dalmatia, page 440— and VITALIANO.

* PETRIFACTIVE. *adj.* [from *petrifacio*, Having the power to form ſtone.—There are n to be found, which are but the lapideſcence *petrifactive* mutation of bodies. *Brown.*

* PETRIFICATION. *n. ſ.* [*petrificatio* from *petrify*.] A body formed by changing matter to ſtone.—In theſe ſtrange *petrifications* hardening of the bodies ſeems to be effected cipally, if not only, by altering the diſpoſit their parts. *Boyle.*

* PETRIFICK. *adj.* [*petrificus*, Lat.] H the power to change to ſtone.—

Winter's breath,
A nitrous blaſt that ſtrikes *petrifick* death. *Sa*
Death with his mace *petrifick*, cold and
As with a trident, ſmote. *Milt. Par*

(1.) PETRIFIED, *part. adj.* changed into

(2.) PETRIFIED CITY. The ſtory of a pe city is well known all over Africa, and ha believed by many conſiderable perſons even i rope. Lewis XIV. was ſo fully perſuaded reality, that he ordered his ambaſſador to pr the body of a man petrified from it at any p Dr Shaw's account of this affair is deciſive, th all a cheat and impoſition; that M. Le Maire French conſul at Tripoli, about 1720, made inquiries into the truth of the report; but, th he detected the cheat, complied with the cu of the diſtrict of RAS SEM ſo far, as to thro way 1000 dollars for a mutilated image of C which the pretended ſearchers brought to h they ſaid, from *Ras Sem*, at the riſk of their but which, he learned afterwards, they had f among the ruins of *Leptis*, and to conceal th ceit, had broken off the quiver, wings, and characteriſtics of the deity. However, there i remarkable circumſtance relating to Ras Sem deſerves to be recorded. When the winds blown away the billows of ſand which freque cover and conceal theſe petrifications, they di

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ter, in ſome of the lower and more depreſſed places of this diſtrict, ſeveral little pools of water, which is uſually of ſo ponderous a nature, that, upon drinking it, it paſſes through the body like quickſilver. This perhaps may be that petrifying ſtuff which has all along contributed to the converſion of the palm-trees and the echini into ſtone.

(1.) * *To* PETRIFY. *v. a.* [*petrifier*, Fr. *petra* and *facio*, Lat.] 1. To change to ſtone.—

A few reſemble *petrified* wood. *Woodward.*

2. To make callous; to make obdurate.—Schiſm is mark'd out by the apoſtle to the Hebrews, as a kind of *petrifying* crime. *Decay of Piety.*—Though their ſouls be not yet wholly *petrified*, yet every act of ſin makes gradual approaches to it. *Decay of Piety.*—

Full in the midſt of Euclid dip at once,
And *petrify* a genius to a dunce. *Pope.*

Who coin the face, and *petrify* the heart. *Young.*

(2.) * *To* PETRIFY. *v. n.* To become ſtone.—

Like Niobe we marble grow,
And *petrify* with grief. *Dryden.*

PETRIFYING WATERS are numerous in Scotland. The river of AYR, in Ayrſhire, has been long known to poſſeſs a ſtrong petrifying power; and the *water of Ayr Stones*, which are nothing but wood petrified in that river, are univerſally known, as the beſt ſubſtances for making hones for razors. There are alſo ſeveral ſprings of this kind in Roxburgh-ſhire. "One is found (ſays the Rev. J. Arkle) on the Tweeden, exceedingly powerful, and containing a great quantity of water, whence large maſſes of petrified matter appear on every ſide converted into ſolid ſtone. The progreſs of the petrifaction is diſtinct and beautiful. The moſs, which grows on the edge of the ſpring, and is ſprinkled with water, is about 8 inches high; the lower part is converted into ſolid ſtone; the middle appears as if half frozen, and the top is green and flouriſhing. The petrified matter, when burnt, is reſolved into very fine lime. The ſpring itſelf, when led over the fields in little rills, fertilizes them exceedingly." *Sir J. Sinclair's Stat.* Acc. Vol. XVI, p. 78.

PETRIKOW, or PETERKAU, a town of Poland, in the palatinate of Siradia: 48 miles ESE. of Siradia, and 80 SW. of Warſaw. Diets were frequently held, and the kings of Poland elected in it. In 1641, and 1731, it was burnt. Lon. 19. 44. E. Lat. 51. 12. N.

(1.) PETRINA, an ancient town of Sicily, now called PETRAGLIA. See PETRA, N° 3.

(2.) PETRINA, or PETRINIA, a river of Croatia, which riſes near Petrinia Puſta, and runs into the Kulpa, near Petrinia.

(3.) PETRINA, or (4.) PETRINIA, a ſtrong town of Croatia, on the S. bank of the Kulpa, built in 1592, by Aſſan Pacha. It was taken in 1593, and its fortifications deſtroyed by the archduke Maximilian. In 1595, while the Turks were repairing it, it was taken by Robert De Eggenburg. In 1696, the Turks attempted to retake it, but were repulſed. In 1702, however, they took it, but reſtored it to Auſtria at the peace. It is 17 miles E. of Carlſtadt, and 156 S. of Vienna. Lon. 16. 0. E. Lat. 45. 47. N.

(2.) PETRINIA. See PETRINA, N° 2.

(3.) PETRINIA PUSTA, a town of Croatia, near the ſource of the Petrina, 10 miles S. of PETRINIA, N° 1.

PETRIZZI, a town of Naples, in Calabria Ultra; 5 miles from Squillace.

PETROBRUSSIANS, a religious ſect, which had its riſe in France and the Netherlands about A. D. 1110. The name is derived from *Peter Bruys*, a Provençal, who attempted to reform the abuſes of the church. His followers were numerous; and for 20 years he laboured in the miniſtry with great zeal. He was, however, burnt in 1130, by an enraged populace ſet on by the clergy. The chief of Bruys's followers was a monk named *Henry*; from whom the Petrobruſſians were alſo called HENRICIANS. They held, 1. That children before the age of reaſon cannot be juſtified by baptiſm. 2. That no churches ſhould be built, but that thoſe that already are ſhould be pulled down. 3. That the croſs ought to be pulled down and burnt, becauſe we ought to abhor the inſtruments of our Saviour's paſſion. 4. That the real body and blood of Chriſt are not exhibited in the euchariſt, but merely repreſented by their figures and ſymbols. 5. That ſacrifices, alms, prayers, &c. do not avail the dead.

PETROCORII, the ancient inhabitants of that part of Gaul, which was called PERIGORD before the revolution. *Cæſ. de Bell. Gall.* vii. c. 75.

PETROJOANNITES, followers of Peter John, or Peter Joannes, *i. e.* Peter the ſon of John, who flouriſhed in the 12th century. His doctrine was not known till after his death, when his body was taken out of his grave and burnt. His opinions were, that he alone had the knowledge of the true ſenſe wherein the apoſtles preached the goſpel; that the reaſonable ſoul is not the form of man; that there is no grace infuſed by baptiſm; and that Jeſus Chriſt was pierced with a lance on the croſs before he expired.

(1.) * PETROL. } *n. ſ.* [*petrole*, Fr.] *Petrol* or *petroleum* is a
(1.) * PETROLEUM. } liquid bitumen, black, floating on the water of ſprings. *Woodward.*

(2.) PETROLEUM, or ROCK OIL; a thick oily ſubſtance exuding out of the earth, and collected on the ſurface of wells in many parts of the world. See CHEMISTRY, *Index*; and MINERALOGY, *Part* II, *Chap.* VI, *Gen.* III, *Sp.* 2. It is found in ſome wells in Italy, and in a deſerted mine in the province of Dalarne in Sweden. In this laſt place it is collected in ſmall hollows of lime-ſtone, like reſin in the pine-tree. It is found trickling from the rocks, or iſſuing from the earth, in many parts of the late Modeneſe, and in various parts of France, Switzerland, Germany, and Scotland, as well as in Aſia. It is alſo found mixed with earth and ſand, from whence it may be ſeparated by infuſion in water. It is of a pungent and acrid taſte, and ſmells like the oil of amber, but more agreeably. It is very light and very pellucid; but, though equally bright and clear under all circumſtances, it is liable to a very great variety in its colour. It is naturally almoſt colourleſs, and greatly reſembles the pureſt oil of turpentine: this is called *white petroleum*, though it is as colourleſs as water. It is ſometimes tinged of brownish, reddiſh, yellowiſh, or faint greeniſh colour; but its moſt frequent colour is a mixture of reddiſh

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and blackish, in such a degree that it looks black when viewed behind the light, but purple when placed between the eye and the light. It is rendered thinner by distillation with water, and leaves a resinous residuum; when distilled with a volatile alkali, the latter acquires the properties of succinated ammoniac, and contains the acid of amber. It is the most frequent of all the liquid bitumens, and is perhaps the most valuable of them all in medicine. It is to be chosen the purest, lightest, and most pellucid that can be had; of the most penetrating smell and most inflammable. Monnet says that some kinds of it are of the density of nut-oil. It is insoluble in spirit of wine; which, though it be the great dissolvent of sulphur, has no effect upon petroleum, not even with ever so long a digestion. It will not take fire with the dephlegmated acid spirits; and in distillation, either by balneum mariæ or in sand, it will neither yield phlegm nor acid spirit; but the oil itself rises in its own form, leaving in the retort only a little matter, thick as honey, and of a brownish colour. The finer kinds resemble NAPHTHA. Mr Bouldoc made several experiments with the white petroleum of Modena; an account of which he gave to the Paris academy. It easily took fire on being brought near a candle, and that without immediately touching the flame; and when heated in any vessel it will attract the flame of a candle, though placed at a great height above the vessel; and the vapour it sends up taking fire, the flame will be communicated to the vessel of heated liquor, and the whole will be consumed. Alonso Barba, in his book of metals, gives a very melancholy instance of the power of petroleum of taking fire at a distance. A certain well, yielding petroleum on the surface of its water, being to be repaired, the workman took down into the well with him a lantern and a candle in it; there were some holes in the lantern, through which the petroleum at a considerable distance sucked out the flame of the candle, and, taking fire, burst up with the noise of a cannon, and tore the man to pieces. It burns in the water; and when mixed with any liquor swims on the surface of it, even of the highest rectified spirit of wine, which is one 7th heavier than pure petroleum. It readily mixes with all the essential oils of vegetables, as oil of lavender, turpentine, &c. and seems very much of their nature. The distinguishing characteristic of the petroleum is its thickness, resembling inspissated oil: when pure it is lighter than spirit of wine; but, though ever so well rectified, it becomes in time thick and black as before. Petroleum, when shaken, yields a few bubbles; but they sooner subside than in almost any other liquor, and the liquor resumes its clear state again almost immediately. This seems owing to the air in this fluid being very equally distributed to all its parts, and the liquor being composed of particles very evenly and nicely arranged. The extensibility of the oil is also amazing. A drop of it will spread over several feet of water, and in this condition it gives a great variety of colours; that is, the several parts of which this thin film is composed act as so many prisms. The most severe frost never congeals petroleum into ice; and paper wetted with it becomes transparent as when wetted with oil; but it does not continue so, the paper becoming opaque again in a few minutes as the oil dries away. There are 3 varieties according to Monget: 1. The yellow, found at Modena in Italy; very light and volatile. 2. The reddish, or yellowish red; some of which is collected at Gabian in Languedoc and in Alsace. 3. The heavy, black, or brown kind, which is the most common, and met with in England, France, Germany, and some other countries. It generally runs out either from chinks or gaps of rocks, or is mixed with the earth, and gushes out of it; or swims on the water of some fountains. According to Dr Lippert, a kind of resin is produced by mixing petroleum with smoking nitrous acid. The taste of this substance is very bitter, but the smell resembles that of musk. The vitriolic acid, according to Lippert, produces a resin still more bitter, but without any aromatic smell. Cronstedt enumerates the following species:

I. PETROLEUM BARBADENSE, *Maltha*, or *Barbadoes tar*, a thick substance resembling soft pitch. See MINERALOGY, *Part* II, *Chap.* VI, *Gen.* III, 3, and 4. It is found in several parts of Europe and Asia; particularly Sweden, Germany, Switzerland; on the coast of the Dead Sea in Palestine; in Persia, in the chinks of rocks, and strata of gypsum and limestone, or floating upon water. It is found also in America, and at Coalbrookdale in England. It melts easily and burns with much smoke and soot, leaving either ashes or a slag according to the heterogeneous matter it contains. It contains a portion of the acid of amber. It gives a bitter salt with mineral alkali, more difficult of solution than common salt, and which when treated with charcoal, does not yield any sulphur.

II. PETROLEUM ELASTICUM, ELASTIC BITUMEN, or MINERAL CAOUTCHOUC. See MINERALOGY, *Part* II, *Chap.* VI, *Gen.* III, *Sp.* 6.

III. PETROLEUM INDURATUM, *Hardened rock oil*, or fossil pitch, an inflammable substance found out of the ground in many parts of the world, and known by the names of *petroleum induratum*, *montana*, *indenpech*, *bergharz*, &c. There are two species. 1. The *asphaltum* or pure fossil pitch found on the shores of the Dead Sea and of the Red Sea; also in Sweden, Germany, and France. See ASPHALTUM. It is likewise found in great quantities, in a bituminous lake in the isle of Trinidad. (See TRINIDAD.) It is a smooth, hard, brittle, inodorous substance, of a black or brown colour when looked at; but on holding it up betwixt the eye and the light, appears of a deep red. It swims in water; breaks with a smooth shining surface; melts easily and, when pure, burns without leaving any ashes; but, if impure, leaves ashes, or a slag. M. Monnet asserts that it contains sulphur, or at least the vitriolic acid. It is slightly and partially acted upon by spirit of wine and ether. Brunnich says, the asphaltum comes from Porto Principe in the island of Cuba in the West Indies. It is likewise found, according to Fourcroy, in many parts of China; and is used for a covering to ships by Arabs and Indians. The *pix montana impura* contains a great quantity of earthy matter, which is left in the retort after distillation, or upon the charcoal if burnt in the

open fire. It coheres like a flag, and is of the colour of black-lead; but in a strong heat this earth is not volatilised, so that its nature is not yet well known. During the distillation a liquid substance falls into the receiver, which is found to be of the same nature with rock-oil. The substance itself is found in Sweden and several other countries. The PISSASPHALTUM is of a mean consistence between the asphaltum and the common petroleum. Monnet says that it is the same with the bitumen collected from a well named *De la Pege*, near Clermont Ferrand in France. The people of mount Carn, in Italy, several years ago, discovered an easier way of finding petroleum than that which they formerly had been used to. This mountain abounds with a sort of greyish salt, which lies in large horizontal beds, mingled with strata of clay, and large quantities of a spar of that kind called by the Germans SELENITES; which is the common sort, that ferments with acids, and readily dissolves in them, and calcines in a small fire. They pierce these slates in a perpendicular direction till they find water; and the petroleum which lies dispersed among the cracks of those slates is also washed out by the water, and brought to all the neighbouring places to the hole or pit which they have dug, on the surface of the water of which it swims after eight or ten days. When there is enough of it got together, they lade it from the top of the water with brass basons; and it is then easily separated from what little water is taken up with it. These wells or holes continue to furnish the oil in different quantities for a considerable time; and when they will yield no more they pierce the slates in some other place. It is never used among us as a medicine; but the Turks give it internally in hysteric complaints, and to their children for worms: some also give from 10 to 15 drops in wine for suppressions of the menses. This, however, is rather the practice of the common people than of the faculty.

PETROMA. See ELEUSINIA, and MYSTERIA, § 36.

PETROMYZON, the LAMPREY, in ichthyology, a genus of fishes belonging to the class of apodes nantes. It has seven spiracula at the side of the neck, no gills, a fistula on the top of the head, and no breast or belly fins. There are three species, distinguished by peculiarities in their dorsal fins.

1. PETROMYZON BRONCHIALIS, or *lampern*, sometimes found of the length of 8 inches, and about the thickness of a swan's quill; but they are generally much smaller. The body is marked with numbers of transverse lines, that pass from the sides from the back to the bottom of the belly, which is divided from the mouth to the vent by a straight line. The back fin is not angular, but of an equal breadth. The tail is lanceolated, and short at the end. They are frequent in the rivers near Oxford, particularly the Isis; and not peculiar to that county, being found in several English rivers, where, instead of concealing themselves under the stones, they lodge in the mud, and are never observed to adhere to any thing like other lampreys.

2. PETROMYZON FLUVIATILIS, the *river* or *true lamprey*, sometimes grows to the length of 10 inches. The mouth is formed like that of the preceding. On the upper part is a large bifurcated tooth: on each side are three rows of very minute ones: on the lower part are 7 teeth, the exterior of which on one side is the largest. The irides are yellow. As in all the other species, between the eyes on the top of the head is a small orifice, of great use to clear its mouth of the water that remains on adhering to the stones; for through that orifice it ejects the water in the same manner as cetaceous fish. On the lower part of the back is a narrow fin, beneath that rises another, which at the beginning is high and angular, then grows narrow, surrounds the tail, and ends near the anus. The colour of the back is brown or dusky, sometimes mixed with blue; the whole underside silvery. These are found in the Thames, Severn, and Dee; are potted with the larger kind; and are by some preferred to it, as being milder tasted. Vast quantities are taken about Mortlake, and sold to the Dutch for bait for their cod fishery. Above 430,000 have been sold in a season at 40s. per 1000; and of late, about 160,000 have been sent to Harwich for the same purpose. It is said that the Dutch have the secret of preserving them till the turbot fishery.

3. PETROMYZON MARINUS, the *sea lamprey*, is sometimes found so large as to weigh 4 or 5 lb. It greatly resembles the eel in shape; but its body is larger, and its snout longer, narrower, and sharper, at the termination. The opening of the throat is very wide; each jaw is furnished with a single row of very small teeth; in the middle of the palate are situated one or two other teeth, which are longer, stronger, and moveable towards the inside of the throat; the inferior part of the palate presents moreover a row of very small teeth, which reaches to the bottom of the throat, where are 4 long notched bones; two short fistulous processes are observable at the extremity of the snout, and there are two others thicker but still shorter above the eyes. Willoughby supposes that the latter are the organ of hearing, and the former the organ of smell. His opinion with regard to the auditory faculty of this fish is founded on what we read in ancient authors, that the fishermen attracted the lampreys by whistling, and that Crassus had tamed one of them to such a degree that it knew his voice and obeyed his call. The eyes of the lamprey are small, and covered with a transparent light blue membrane; the pupil is bordered with a circle of a colour resembling gold; near the gills, which are 4, there is a round hole on both sides, through which it discharges the water. The lamprey has no fins on his belly or breast; on the back we observe a fin, which begins pretty near the head, extends to the tail which it turns round, and is afterwards continued to the anus: this fin is covered by the skin of the body, to which it adheres but loosely; the skin is smooth, of a red blackish colour, and streaked with yellow; the lamprey advances in the water with winding motions, like those of a serpent, which is common to it, with all the anguiliform fishes. The lamprey lives on fish. During the cold, it lies concealed in the crevices of sea rocks, and consequently is fished for only at certain seasons. It lives in a

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ſtate of hoſtility with the POULPE, a kind of ſea polypus, which ſhuns the combat as long as it can; but when it finds the impoſſibility of eſcape, it endeavours to ſurround the lamprey with its long arms. The latter ſlips away, and the poulpe becomes its prey. The lobſter, we are told, avenges the poulpe, and deſtroys the lamprey in its turn. See CANCER, § IV. N° 6. Rondelet ſays, that the fiſhermen conſider the bite of the lamprey as venomous and dangerous, and never touch it while alive but with pincers. They beat it on the jaws with a ſtick, and cut off its head. He adds, that its aſhes are a cure for its bite, and for the king's evil. When any one has been bit by a lamprey, the moſt effectual method is to cut out the part affected. Lampreys are very dexterous in ſaving themſelves; when taken with a hook, they cut the line with their teeth; and when they perceive themſelves caught in a net, they attempt to paſs through the meſhes. They fiſh for lampreys only on the pebbly edges of ſea rocks; ſome of theſe pebbles are drawn together to make a pit as far as the water's edge, or a little brood is thrown in, and the lamprey immediately puts forth its head between two rocks. As ſoon as the hook, which is baited with crab or ſome other fiſh, is preſented to it, it ſwallows greedily, and drags it into its hole. There is then occaſion for great dexterity to pull it out ſuddenly; for if it is allowed time to attach itſelf by the tail, the jaw would be torn away before the fiſh could be taken. This ſhows that its ſtrength reſides in the end of its tail; for the great bone of this fiſh is reverſed, ſo that the bones, which in all other fiſhes are bent towards the tail, are here turned in a contrary direction, and aſcend towards the head. After the lamprey is taken out of the water, it is not killed without a great deal of trouble: the beſt way is to cut the end of its tail, or to cruſh it with repeated blows on the ſpine, to prevent it from leaping; as its animal life extends to the end of the ſpinal marrow. M. De Querhoent denies the ſuppoſed poiſon of the lamprey. This ſpecies, he ſays, abounds on the coaſts of Africa, at the Antilles, on the coaſt of Brazil, at Surinam, and in the Eaſt Indies. When taken with a hook, the fiſher muſt kill it before he takes it off, otherwiſe it darts upon him, and wounds him ſeverely. Its wounds, however, are not venomous, M. de Querhoent having ſeen ſeveral ſailors who were bit by it, but experienced no diſagreeable conſequences. Lampreys are likewiſe found in great abundance at Aſcenſion Iſland, but particularly in the ſeas of Italy: their fleſh when dried is excellent; and boiling gives to the vertebræ the colour of gridelin. The fleſh of the lamprey is white, fat, ſoft, and tender; it is pretty agreeable to the taſte, and almoſt as nouriſhing as that of the eel; thoſe of a large ſize are greatly ſuperior to the ſmall ones. Mr Pennant is of opinion, that the ancients were unacquainted with this fiſh.

PETRONA, a town of Croatia; 14 miles N. of Carlſtadt.

* PETRONEL. *n. ſ.* [*petrinal*, Fr.] A piſtol; a ſmall gun uſed by a horſeman.—

And he with *petronel* upheav'd,
Inſtead of ſhield the blow receiv'd,
The gun recoil'd, as well it might. *Hudibras.*

(1.) PETRONIUS, a renowned Roman ſenator. When governor of Egypt, he permitted Herod, king of the Jews, to purchaſe in Alexandria a large quantity of corn for the ſupply of his ſubjects, who were afflicted with a ſevere famine. When Tiberius died, Caius Caligula, who ſucceeded him, took from Vitelius the government of Syria, and gave it to Petronius, who diſcharged the duties of his office with dignity and honour. From his favouring the Jews, he run the riſk of loſing the emperor's friendſhip and his own life; for when that prince gave orders to have his ſtatue depoſited in the temple of Jeruſalem, Petronius, finding that the Jews would rather loſe death than ſee that ſacred place profaned, was unwilling to have recourſe to violent meaſures, and therefore preferred moderation to cruel meaſures to enforce obedience. In his voyage to Africa, of which country he had been appointed quæſtor, the ſhip in which he ſailed was taken by Scipio, who cauſed all the ſoldiers to be put to the ſword, and promiſed to ſave the quæſtor's life, provided he would renounce Cæſar's party. Petronius replied, that "Cæſar's officers were accuſtomed to grant life to others, and not to receive it;" and, at the ſame time, he ſtabbed himſelf with his own ſword.

(2.) PETRONIUS ARBITER, Titus, a great Epic and polite writer, the favourite of Nero, ſuppoſed to be the ſame mentioned by Tacitus in his Annals, lib. xvi. He was proconſul of Bithynia, and afterwards conſul, and appeared capable of the greateſt employments. He was one of Nero's principal confidents, and the ſuperintendant of his pleaſures. The great favour ſhewn him drew upon him the envy of Tigellinus, another of Nero's favourites, who accuſed him of being concerned in a conſpiracy againſt the emperor: on which Petronius was ſeized, and condemned to die. He met death with a ſtrange indifference, and ſeems to have taſted it nearly as he had done his pleaſures. He would ſometimes open a vein, and ſometimes cloſe it, converſe with his friends in the meanwhile, not on the immortality of the ſoul, which was no part of his creed, but on topics which pleaſed his fancy, ſuch of love-verſes, agreeable and paſſionate airs. Of this diſciple of Epicurus, Tacitus gives the following character: "He was," ſays he, "neither a ſpendthrift nor a debauchee; but a refined voluptuary, who devoted the day to ſleep, and the night to the duties of his office, and to pleaſure. He is much diſtinguiſhed by a ſatire which he wrote, and ſecretly conveyed to Nero; in which he ingeniouſly deſcribes, under borrowed names, the character of this prince. Peter Petit diſcovered at Traw in Dalmatia, in 1665, a conſiderable fragment containing the ſequel of Petronius's Trimalcion's Feaſt. This fragment, which was printed in 1666 at Padua and Paris, produced a paper war among the learned. While ſome confirmed that it was the work of Petronius, and others denied it to be ſo, Petit ſent it to Rome. The French critics, who had attacked its authenticity, were ſilent after it was depoſited in the roy-

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royal library. It is now generally attributed to Petronius. The public did not form the same favourable opinion of some other fragments, which were extracted from a MS. found at Belgrade in 1688, and printed at Paris by Nodot in 1694, though they are ascribed by the editor Carpentier, and other learned men, to Petronius. His genuine works are, 1. A Poem on the civil war between Cæsar and Pompey, translated into prose by Marolles, and into French verse by Brebier, 1737, in 4to. Petronius, disgusted with Lucan's flowery language, opposed a *Pharsalia* to Lucan's *Pharsalia*; but his work, though superior to Lucan's in some respects, is not in the true style of epic poetry. 2. A Poem on the Education of the Roman Youth. 3. Two Treatises upon the Corruption of Eloquence, and the Decay of Arts and Sciences. 4. A Poem on Dreams. 5. The Shipwreck of Lica. 6 On the Inconstancy of human Life. And, 7. Trimalcion's Banquet. His last performance is a description of the pleasures of a corrupted court; and the painter is rather an ingenious courtier, than a person whose aim is to reform abuses. The best editions of Petronius are those published at Venice, 1499, in 8vo; at Amsterdam, 1669, in 8vo, *cum notis Var.* and with Boschius's notes, 1677, in 24to; and Leyden, 2 vols in 24to. The edition *variorum* was printed in 1743, in 2 vols 4to, with Peter Burman's commentaries. (See BURMAN, N° 3.) Petronius died in 65 or 66.

(2) PETRONIUS GRANIUS, a centurion in the Roman legion, who served with reputation under Cæsar in the Gallic war.

(3) PETRONIUS MAXIMUS was born A. D. 396, of an illustrious family, being at first a senator and consul of Rome. He put on the imperial purple in 455, after having effected the assassination of Valentinian III. To establish himself upon the throne, he married Eudoxia, the widow of that prince; and, as she was ignorant of his crime, he confessed to her, in a transport of love, that the strong desire he had of being her husband, had made him commit this atrocious crime. Whereupon Eudoxia privately applied to Genseric, king of the Vandals, who coming into Italy with a very powerful army, entered Rome, where the usurper then was. Petronius endeavoured to escape; but the soldiers and people encouraged at his cowardice, fell upon him, and overwhelmed him with a shower of stones. His body was dragged through the streets for 3 days; after every other mark of disgrace, thrown into the Tiber, the 12th of June 455. His reign lasted 77 days. Yet he had some good qualities. He loved and cultivated the sciences. He was prudent in his councils, circumspect in his actions, equitable in his judgments, a facetious companion, and steady friend. He had gained the affections of every body, while he remained in a private station.

PETROPAULOUSKAIA, two forts of Russia, in Ufa, and Upha.

PETROPAULOUSKOI, a sea port town of Asia, in Kamtschatka, a government of Irkutsk; 200 miles E. of Ischin. Lon. 158. 43. E. Lat. 53. N.

PETROPSKOI, a town of Russia, in Perm.

PETROSA *ossa*, in anatomy, a name given to the 4th and 5th bones of the cranium, called also *ossa temporum* and *ossa squamosa*; the substance whereof, as their first and last names express, is squamose and very hard.

PETROSELINUM, (APIUM PETROSELINUM, *Lin.*) *Parsley*. See APIUM, N° 2, and § 11. This plant is commonly cultivated for culinary purposes. The seeds have an aromatic flavour, and are occasionally used as carminatives, &c. The root is one of the five aperient roots, and with this intention is sometimes made an ingredient in apozems and diet-drinks: if liberally used, it is apt to occasion flatulencies; and thus, by distending the viscera, produces a contrary effect to that intended by it: the taste of this root is somewhat sweetish, with a light degree of warmth and aromatic flavour.

PETROSILEX, in lithology, CHERT, or hornstone; a species of stones, found in many mountains. See MINERALOGY, *Part* II, *Chap.* IV, *Class* I, *Order* I, *Gen.* VI, ii. *Sp.* 6.

PETROSKOL, a town of Russia, in Perm.

PETROVATZ, a town of Croatia, 20 miles SSE. of Carlstadt.

PETROVSK, two towns of Russia: 1. in Jaroslaf, 52 miles S. of Jaroslaf: 2. in Saratov, 40 miles NW. of Saratov.

(1.) PETROVSKAIA, a sea port town and fort of Russia, on a bay of the sea of Asoph; 24 miles SW. of Mariupol.

(2.) PETROVSKAIA, a bay of Russia, on the NE. coast of the Frozen Ocean. Lon. 124. 0. E. Ferro, Lat. 76. 10. N.

PETROWITZ, a town of Bohemia, in Konigingratz, 8 miles ENE. of Konigingratz.

PETROZAVODSK, a town of Russia, in Olonetz; on the W. coast of Onezskoe lake; 132 miles NE. of Petersburg. Lon. 52. 0. E. Ferro. Lat. 61. 40. N.

PETSCHAKEN, a town of Bohemia, in Bechin: 8 miles S. of Pilgram.

(1.) PETSCHANOI, a town and fort of Russia, in Kolivan; 188 miles WSW. of Kolivan. Lon. 94. 20. E. Ferro. Lat. 53. 0. N.

(2.) PETSCHANOI, a cape on the N. coast of Russia, on the Frozen Sea. Lon. 183. 0. E. Ferro. Lat. 75. 25. N.

PETSCHNECZA, a town of Germany, in Carinthia, 12 miles SW. of Clagenfurt.

PETSKA, a town of Bohemia, in Konigingratz; 11 miles ENE. of Gitschin.

PETTAPOLLY, a town of Hindoostan, in Guntoor; on the coast of Coromandel, and Bay of Bengal; 42 miles SW. of Masulipatam, and 42 NE. of Ongole. Lon. 80. 46. E. Lat. 15. 49. N.

PETTAW. See PETAW.

(1.) * PETTCOY. *n. s.* [*gnaphalium minus.*] An herb. *Ainsworth.*

PETTEIA, in the ancient music, a term to which we have no one corresponding in our language. The melopœia, or the art of arranging sounds in succession so as to make melody, is divided into three parts, which the Greeks call *lepsis*, *mixis*, and *chresis*; the Latins *sumptio*, *mixtio*, and *usus*; and the Italians *presa*, *mescolamento*, and *uso*. The last of these is called by the Greeks πεττεια, and by the Italians *pettiare*; which therefore means the art of making a just discernment of all the manners

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manners of ranging or combining ſounds among themſelves, ſo as they may produce their effect, *i. e.* may expreſs the ſeveral paſſions intended to be raiſed. Thus it ſhows what ſounds are to be uſed, and what not; how often they are ſeverally to be repeated; with which to begin, and with which to end; whether with a grave ſound to riſe, or an acute one to fall, &c. The petteia conſtitutes the manners of the muſic; chooſes out this or that paſſion, this or that motion of the ſoul, to be awakened; and determines whether it be proper to excite it on this or that occaſion. The petteia, therefore, is in muſic much what the manners are in poetry. It is not eaſy to diſcover whence the denomination ſhould have been taken by the Greeks, unleſs from πεττὸς, their game of cheſs; the muſical petteia being a ſort of combination and arrangement of ſounds, as cheſs is of pieces called πεττοὶ *calculi*, or *cheſs-men*.

PETTENAW, a town of Germany, in the Tiroleſe, near the Inn; 12 miles WSW. of Inſpruck.

PETTEREL, a river of Cumberland, which runs into the Eden, near Carliſle.

* PETTICOAT. *n. ſ.* [*petit* and *coat*.] The lower part of a woman's dreſs.—Wilt thou make as many holes in an enemy's battle, as thou haſt done in a woman's *petticoat*? *Shakeſpeare*.—

His feet beneath her *petticoat*,
Like little mice, ſtole in and out. *Suckling*.

—It is a great compliment to the ſex, that the virtues are generally ſhewn in *petticoats*. *Addiſon*.—

To fifty choſen ſylphs, of ſpecial note,
We truſt th' important charge, the *petticoat*.
Pope's Rape of the Lock.

* PETTIFOGGER. *n. ſ.* [corrupted from *petitvoguer*; *petit* and *voguer*, Fr.] A petty ſmall-rate lawyer.—The worſt conditioned and leaſt clienteed *petivoguers* get more plentiful proſecution of actions. *Carew's Survey of Cornwall*.—

Your *pettifoggers* damn their ſouls
To ſhare with knaves in cheating fools. *Hudibr*.

—Conſider, my dear, how indecent it is to abandon your ſhop and follow *pettifoggers*. *Arbuthnot*.—Phyſicians are apt to deſpiſe empirics, lawyers, *pettifoggers*, merchants and pedlars. *Swift*.

(1.) PETTINAIN, a pariſh of Scotland, in Lanarkſhire, 3 miles long and 2 broad; on the banks of the Clyde, of an irregular rectangular figure. About 1700 acres are arable; and about 1700 hilly and fit only for paſture. The air is cold. The ſoil is various; part mooriſh, part clayey till; and ſome parts rich loam. Wheat, barley, oats, peaſe, beans, turnips, flax, and potatoes, are raiſed. The population, in 1792, was 386; increaſe 56, ſince 1755. The number of horſes was 134; of ſheep, 450; and black cattle, 366. The houſe of Weſter-hall, the family ſeat of the late Sir James Johnſtone, Bart. is in the pariſh. Thirlages ſtill prevail. There are relics of an ancient camp.

(2.) PETTINAIN, a village in the above pariſh, 5½ miles E. of Lanark, and 7 NW. of Biggar, containing 110 inhabitants in 1792.

(3.) PETTINAIN, a hill in the above pariſh.

PETTINCO, a river of Sicily, in the valley of Mazara, which runs into the ſea, 6 miles NW. of Miſtretta.

* PETTINESS. *n. ſ.* [from *petty*.] Smallneſs; littleneſs; inconſiderableneſs; unimportance.—

The diſgrace we have digeſted;
To anſwer which, his *pettineſs* would bow under.
Shakeſp.

* PETTISH. *adj.* [from *pet*.] Fretful; peeviſh.
They're froward, *pettiſh*, and unus'd to ſmile.
Creech.

* PETTISHNESS. *n. ſ.* [from *pettiſh*.] Fretfulneſs; peeviſhneſs.—Like children, when we loſe our favourite plaything, we throw away the reſt in a fit of *pettiſhneſs*. *Collier*.

* PETTITOES. *n. ſ.* [*petty* and *toe*.] 1. The feet of a ſucking pig. 2. Feet in contempt.—My good clown grew ſo in love with the wench's ſong, that he would not ſtir his *pettitoes*, till he had both tune and words. *Shak*.

* PETTO. *n. ſ.* [Ital.] The breaſt; figuratively, privacy.

(1.) PETTY, Sir William, ſon of Anthony Petty a clothier, was born at Rumſey, a ſmall ſcandalous town in Hampſhire, in 1623; and while a boy took great delight among the artificers there, whoſe trades he could work at when but 12 years of age. At 15 he was maſter of the Latin, Greek and French tongues, and of arithmetic and the parts of practical geometry and aſtronomy uſeful to navigation. Soon after he went to Caen, and Paris, where he ſtudied anatomy, with Mr Hobbes. Upon his return to England, he was preferred in the king's navy. In 1643, when the war between the king and parliament grew hot, he went into the Netherlands and France for 3 years; and having proſecuted his ſtudies, in phyſic, at Utrecht, Leyden, Amſterdam, and Paris, he returned home to Rumſey. In 1647, he obtained a patent to teach the art of double writing for 17 years. In 1648, he publiſhed at London "Advice to Mr Samuel Hartlib, for the advancement of ſome particular part of learning." At this time he adhered to the prevailing party of the kingdom; and went to Oxford, where he taught anatomy and chemiſtry, and was created M. D. In 1650, he was made profeſſor of anatomy there; and ſoon after a number of the college of phyſicians in London, and phyſician to the army in Ireland; where he continued till 1659, and acquired a great fortune. After the reſtoration, he was introduced to king Charles II. who knighted him in 1661. In 1662, he publiſhed *A Treatiſe of taxes and contributions*. In 1663 he invented a double-bottomed ſhip. He died at London of a gangrene in the foot, occaſioned by the ſwelling of the gout, in 1687. The character of his genius is ſufficiently ſeen in his writings, which are very numerous. Amongſt theſe he wrote the hiſtory of his own life. He died poſſeſſed of a fortune of about 15,000 l. a-year. His family were afterwards ennobled.

(2.) PETTY, a pariſh of Scotland, in Inverneſſhire, long ago conjoined with the old pariſh of *Briarlich*, on the S. bank of the Moray Firth, 6 miles long, and 4 broad, in the form of a rectangle. The ſurface is moſtly level, but riſes towards the S. The climate is dry; the air ſerene, and the country in general agreeably diverſified with cultivated fields, rivulets, and clumps of trees. The ſoil is light and ſandy. Oats, barley, flax, and potatoes are the uſual crops. The population, in 1791, was 1518: the decreaſe 125 ſince 1755. The number of horſes was 450; of ſheep, 2500

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and black cattle, 1400. There are relics of some Druidical temples, and of an ancient caſtle of the Earls of Moray, called *Caſtle-Stewart*.

(g) * PETTY. *adj.* [*petit*, Fr.] Small; inconſiderable; inferiour; little.—

He had no power;
But was a *petty* ſervant to the ſtate. *Shak. Cor.*
In time of infection, ſome *petty* fellow is ſent out to kill the dogs. *Bacon's Nat. Hiſt.*—Some very alteration or difference it may make. *Bacon.*
Will God incenſe his ire
For ſuch a *petty* treſpaſs? *Milton.*
From thence a thouſand leſſer poets ſprung,
Like *petty* princes from the fall of Rome. *Denh.*
The ſun, moon, and ſtars, as *petty* gods. *Stillingfl.*—I have read of *petty* commonwealths, as well as the great ones. *Swift.*—
Bolonia water'd by the *petty* Rhine. *Addiſon.*
Can an example be given, where we have treated a *pettieſt* prince, with whom we have had to do, in ſo contemptuous a manner? *Swift.*

PETTY BAG, an office in chancery; the clerks of which record the return of all inquiſitions out of every county, and make all patents of comptrollers, gaugers, cuſtomers, &c.

PETTY LARCENY. See LARCENY.

PETTY MADDER. See CRUCIANELLA.

PETTY PATEES, among confectioners, a ſort of small pies, made of a rich cruſt filled with ſweet meats.

PETTY SINGLES, among falconers, the toes of a hawk.

PETTY TALLY, in the ſea language, a common allowance of victuals, according to the number of the ſhip's company.

PETTY TREASON. See TREASON.

PETTY WHIN, a ſpecies of ONONIS.

PETTY-CHAPS, in ornithology. See MOTACILLA.

PETTYCUR, a harbour of Fifeſhire, on the N. ſide of the Frith of Forth, oppoſite Leith, a mile E. of Kinghorn. It is the uſual landing place of paſſengers from Leith, and has a good inn. A harbour and baſon were lately conſtructed at it by Capt. Rudyard of the Royal Engineers.

PETULANCE. } *n. ſ.* [*petulance*, Fr. *petulantia*, Lat.] Saucineſs; peeviſhneſs; wantonneſs.—There was a wall or paliſade of teeth ſet in our mouth, to reſtrain the *petulancy* of our words. *Ben Jonſon.*—Such was others *petulancy*, that they joyed to ſee their betters cruelly outraged. *King Charles.*—That which called pride in ſome, and like *petulance* in others, would be in time wrought off. *Clarendon.*—Inſtances of *petulancy* and ſcurrility are to be found in their pamphlets. *Swift.*—There appears in him a pride and *petulancy* in youth. *Watts's Logick.*

PETULANT. *adj.* [*petulans*, Lat. *petulant*, Fr.] 1. Saucy; perverſe.—Let him ſhew the force of his argument, without too importunate and *petulant* demands of an anſwer. *Watts.* 2. Wanton.—The tongue of a man is ſo *petulant*, that one ſhould not lay too great ſtreſs upon any preſent diſcourſe. *Spectator.*

PETULANTLY. *adv.* [from *petulant*.] With petulance; with ſaucy pertneſs.

PETUNSE, in natural hiſtory, one of the two ſubſtances whereof porcelain or china ware is made. The petunſe is a coarſe kind of flint or pebble, the ſurface of which is not ſo ſmooth when broken as that of our common flint. See PORCELAIN.

PETURANO, a town of Naples in Abruzzo Citra; 4 miles S. of Solmona.

PETWORTH, a large, populous, and handſome town of Suſſex, 5 miles from Midhurſt and the Suſſex Downs, and 49 from London.

PETZEN, a mountain of Carinthia.

PETZENKIRCHEN, a town of Germany, in Auſtria; 8 miles E. of Ips.

PETZENSTEIN, a town of Franconia, 28 miles SSW. of Bayreuth, and 35 NNE. of Nuremberg.

PEUCEDANUM, or SULPHUR-WORT, a genus of the digynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 45th order *Umbellatæ*. The fruit is lobated, ſtriated on both ſides, and ſurrounded by a membrane; the involucra are very ſhort. There are 3 ſpecies; none of which have any remarkable properties excepting the

PEUCEDANUM OFFICINALE, or common *hog's fennel*, growing naturally in the Engliſh ſalt marſhes, riſes to the height of two feet, with channelled ſtalks, which divide into 2 or 3 branches, each crowned with an umbel of yellow flowers, compoſed of ſeveral ſmall circular umbels. The roots, when bruiſed, have a ſtrong fetid ſcent like ſulphur, and an acrid, bitteriſh, unctuous taſte. Wounded in the ſpring, they yield a conſiderable quantity of yellow juice, which dries into a gummy reſin, and retains the ſtrong ſmell of the root. The expreſſed juice was uſed by the ancients in lethargic diſorders.

PEUCER, Gaſpar, profeſſor of medicine at Wirtemberg, was born at Bautzen in Luſatia. He married a daughter of Melancthon, whoſe works he publiſhed in 1601, in 5 vols. Being a proteſtant and being cloſely impriſoned for 10 years for his opinions, he wrote his thoughts on the margins of old books, with ink made of burnt cruſts ſoaked in wine. He died in 1602.

PEUCESTES, a brave general under Alexander the Great, who beſtowed on him a crown of gold. See MACEDON, § 14.

PEVENSEY, a town of Suſſex, on a river which runs into a bay in the Engliſh Channel and forms *Pevenſey Harbour*. It has an ancient caſtle belonging to Robert Earl of Moreton, thought by antiquarians to be the moſt entire remain of Roman architecture in Britain. Duke Bertold gave it to the abbey of St Denis in 952. Sueno, the Dane landed at it in 1049, carried off his couſin Beorn and murdered him. It was afterwards ravaged by Earl Godwin and his ſon Harold, who carried off many ſhips. And here William the Conqueror landed, previous to his conqueſt of England. It is circular and incloſes 7 acres. It is 14 miles WSW. of Haſtings, and 63 S. of London.

PEVER, a river of Cheſhire, which runs into the Wever, near Norwich.

PEVEREL POINT, a cape of Dorſetſh. on the Engliſh Channel; 12 miles WSW. of the Needles.

PEUPLINGUE, a town of France, in the dep. of the Straits of Calais; 4½ miles SW. of Calais.

PEUTEMAN, Peter, a Dutch painter, born at Rotterdam

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Rotterdam in 1650. His subjects were either allegorical or emblematical allusions to the shortness and misery of human life. He died in consequence of a fright in 1692.

PEUTINGER, Conrad, a learned German, born at Augsburg, in 1465. He became secretary to the senate of Augsburg; and published an ancient *Itinerary* called *Tabula Peutingerina*, marking the roads by which the Roman Armies passed to the greater part of the empire. He died in 1574.

* PEW. *n. s.* [*puye*, Dutch.] A seat inclosed in a church.—Sir Thomas More did use, at mass, to sit in the chancel, and his lady in a *pew*. *Bacon*.—Should our sex take it into their heads to wear trunk breeches at church, a man and his wife would fill a whole *pew*. *Addison*.—

She decently, in form, pays heav'n its due;
And makes a civil visit to her *pew*. *Young*.

(1.) * PEWET. *n. s.* [*pievit*, Dutch, *vannellus*.] 1. A water fowl—We reckon the dip-chick, so named of his diving and littleness, puffins, *pewets*, meawes. *Carew*. 2. The lapwing. *Ainsworth*.

(2.) PEWET. See LARUS, N° 9.

(3.) PEWET ISLAND, an island in the German Ocean, near the coast of Essex; 5 miles SSW. of Harwich harbour.

PEWSUM, a town of East Friesland, and capital of a bailiewic; 6 miles NNW. of Emden.

(1.) * PEWTER. *n. s.* [*peauter*, Dutch.] 1. A compound of metals; an artificial metal.—Nine parts or more of tin, with one of regulus of antimony, compose *pewter*. *Pemberton*.—Coarse *pewter* is made of fine tin and lead. *Bacon*.—The *pewter*, into which no water could enter, became more white. *Bacon*.—*Pewter* dishes, with water in them, will not melt easily, but without it they will; nay, butter or oil, in themselves inflammable, yet, by their moisture, will hinder melting. *Bacon*. 2. The plates and dishes in a house.—The eye of the mistress was wont to make her *pewter* shine. *Addison*.

(2.) PEWTER, is a factitious metal used in making domestic utensils, as plates, dishes, &c.—The basis of the metal is tin; which is converted into pewter by mixing at the rate of an hundred weight of tin with 15 pounds of lead and six pounds of brass.—Besides this composition, which makes the common pewter, there are other kinds, compounded of tin, antimony, bismuth, and copper, in several proportions.

* PEWTERER. *n. s.* [from *pewter*.] A smith who works in pewter.—He shall charge you and discharge you with the motion of a *pewterer*'s hammer. *Shak*.—We caused a skilful *pewterer* to close the vessel in our presence with soder exquisitely. *Boyle*.

PEXHALL, a town of Cheshire, W. of Macclesfield.

PEYER, J. Conrad, a learned German physician, born at Schaffhausen. He published *Exercitatio anatomico-medica de Glandulis inteſtinorum*, at Schaffhausen, in 1677.

PEYERBACH, a town of Germany, in Austria; 7 m. W. of Efferding, and 16 W. of Lintz.

PEYERSON's POINT. a cape on the N. coast of Antigua. Lon. 61. 32. W. Lat. 17. 18. N.

PEYRAC, a town of France in the dep. of the Lot, 5 miles NW. of Gourdon, and 10 SW. Martel.

PEYRAT, a town of France in the dep. of Upper Vienne; 12 miles ESE. of St Leonard, 21 E. of Limoges.

PEYREBOURADE, a town of France, in dep. of the Landes, 10½ miles S. of Dax, and E. of Bayonne.

PEYREI, a town of France, in the departm of the Vienne; 15 miles SW. of Poictiers.

PEYRELAU, a town of France, in the dep ment of the Aveiron; 9 miles NE. of Milhau.

PEYRERE, Isaac LA, was born at Bourdea of protestant parents. He entered into the vice of the Prince of Conde, who was m pleased with the singularity of his genius. E the perusal of St Paul's writings he took int head to aver, that Adam was not the first d human race; and, to prove this extravagant nion, he published in 1655 a book, print Holland in 4to and in 12mo, with this title, *Præadamitæ, sive exercitatio ſuper verſibus* 12, 13, *cap.* 15. *Epiſtolæ Pauli ad Romanos*. This burnt at Paris, and the author imprisoned at seis. The Prince of Conde having obtained berty, he travelled to Rome in 1656, and gave in to Pope Alexander VII. a solemn re ation both of Calvinism and Preadamism. conversion was not thought to be sincere, a with regard to this last heresy. His desire the head of a new sect is evident; and in his he pays many compliments to the Jews, and them to attend his lectures. Upon his ret Paris he went again into the Prince of Conde vice as his librarian. Some time after he ret the seminary *des Vertus*, where he died Jan. 1676. aged 82. He left behind him. I. A trea singular as it is scarce, entitled, *Du rappel des* 1643, in 8vo. The recal of the Israelites, opinion of this writer, will be not only of a s nature, but they will be reinstated in the ra blessings which they enjoyed before th jection. They will again take possession holy land, which will resume its former fer and their restorer will be *a king of France*. curious and entertaining account of Gree 8vo, 1647. III. An equally interesting ac of Iceland, 1663, 8vo. IV. A letter to P mus, 1658. in 8vo, in which he explains th sons of his recantation, &c.

PEYRILLAT, a town of France, in th partment of Upper Vienne; 12 miles NW Limoges.

PEYRINS, a town of France, in the d ment of the Drome; 12 miles N. of Roman

PEYROLLES, a town of France in the d the Mouths of the Rhone, famed for its m waters; 9 miles NE. of Aix.

PEYRONIUS, Francis DE LA, an e French surgeon, who practised surgery a with such eclat, that he was appointed fir geon to Lewis XV. He improved this favo situation, and procured to his profession th stablishments which contributed to extend i nefits. The Royal College of Surgery at was founded by his means in 1731, was en ened by his knowledge, and encouraged by hi nificence. At his death, which happened at

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Belles, 14th April 1747, he bequeathed to the society of surgeons in Paris two thirds of his effects, his estate of Marigni, which was sold to the king for 100,000 livres, and his library. He also left to the society of surgeons at Montpellier two houses, with 100,000 livres, to erect there a chirurgical amphitheatre. He was a philosopher without ostentation; his understanding was acute, his natural vivacity rendered his conversation agreeable; and he possessed an uncommon degree of sympathy for those in distress.

PEYROUSE. See PEROUSE.

PEYROUX, a town of France, in the department of the Vienne; 9 m. SW. of Isle Jourdain.

PEYRUIS, a town of France, in the dep. of the Upper Alps; 7½ miles SW. of Albin, and 15 S. of Digne.

PEYRUSSE, a town of France, in the dep. of Aveyron; 6 miles SW. of Albin, and 9 SE. of Rhodez.

PEYSTORF, a town of Germany, in Austria; 6 miles WSW. of Feldsburg.

PEYTU, an island of China, near the coast, in the gulf of Nanking. Lon. 138. 6. E. Ferro. Lat. 30. 20. N.

PEZA, a river of Russia, in Archangel, rising in the Lake Varzeskoi, and running into Mezen, below SE. of Ofokofkoi.

PEZAY, N. Masson, marquis of, a native of Paris, was a captain of dragoons; and gave some treatises on tactics to Lewis XVI. He died in the beginning of 1778. He left behind him, 1. A translation of Catullus, 2. *Les Soirees Helvetiennes, Suisses, & Franc Comtoises*, in 8vo, 1770. 3. *Poesies Provencales*, in MS. 4. *La Rosiere de Salency*; a pastoral in three acts, which has been performed with success on the Italian theatres. 5. *Campagnes de Maillebois*, in 3 vols 4to, and a volume of maps.

PEZENAS, Esprit, a learned Jesuit, born at Avignon in 1692. He became Professor of Divinity at Marseilles. His works and translations are numerous, and esteemed for their perspicuity.

PEZENAS. See PESENAS.

PEZILLA, a town of France, in the dep. of the Eastern Pyrenees; 6 miles W. of Perpignan.

PEZIZA, CUP MUSHROOM, in botany, a genus of the natural order of fungi, belonging to the Cryptogamia class of plants. The fungus campanulated and sessile. Linnæus enumerates 8 species.

PEZOS, a town of Spain, in Asturias.

PEZRON, Paul, a very learned and ingenious Frenchman, born at Hennebon in Brittany, in 1639, and admitted into the order of Citeaux in 1682. He was a great antiquary, and was author of *The antiquity of Time, restored and defended against the Jews and modern chronologers*. He went through several promotions, the last of which was that of abbey of Charmoye, and died in 1706.

PFAFF, a mountain of Germany in the S. part of Austria, bordering on Stiria.

PFAFFENBERG, a town of lower Bavaria, 14 miles NW. of Dingelfingen, and 16 N. of Landshut.

PFAFFENHAUSEN, 2 towns of Germany; 1. In Lower Bavaria, 13 miles NNW. of Landshut, and 9 SSE. of Abensperg: 2. in Suabia, on the river Mindel, 3 miles N. of Mindelheim, and 21 SW. of Augsburg.

PFAFFENHEIM, a town of France in the dep. of the Upper Rhine, 6 miles S. of Colmar.

(1.) PFAFFENHOFEN, a town of France, in the dep. of the Lower Rhine: 9 miles W. of Haguenau.

(2, 3.) PFAFFENHOFEN, 2 towns of Bavaria; 1. 13 miles SW. of Amberg, and 28 NNW. of Ratisbon: 2. On the Ilm, 14 miles SSE. of Ingoldstadt, 19 NW. of Ratisbon, and 24 N. of Munich. Lon. 12. 3. E. Lat. 49. 27. N.

PFAFFEN-HOVEN, a town of Suabia, in Wirtemberg; 8 miles W. of Heibronn, and 18 N. of Stuttgard.

PFAFFENSCHLAG, a town of Austria.

PFAFRODA, a town of Upper Saxony, in Erzgeburg; 16 miles S. of Freyberg.

PFALZEL, a town of the imperial French republic, in the department of the Rhine and Moselle, and ci-devant electorate of Treves. It had anciently a palace of the kings of the Franks. It is 3 miles NE. of Treves, and 10 SSE. of Kylburg.

PFANBERG, a town of Stiria, 10 miles N. of Graz.

PFANNER Tobias, a learned German born at Augsburg, in 1641. He became Secretary of the Archives to the D. of Saxe Gotha. He wrote *The Theology of the Pagans*; with several other works.

PFARCHIRCHEN, a town of Germany in Austria; 5 miles NW. of Putzeinstorf.

PFEDDERSHEIM, a town of the imperial French republic, in the dep. of the Rhine and Moselle, and late Palatinate of the Rhine; 23 m. S. of Mentz, and 24 NNW. of Spire.

PFEDELBACH, a town of Franconia, in Hohenlohe; one mile S. of Ohringen.

PFEFFERCORN, John, a learned Jew, who was converted to Christianity. He was the author of *De Abolendis Judæorum scriptis*, and consistently with the title of that work endeavoured to persuade the emp. Maximilian to burn all the Hebrew books, except the Bible. He wrote some other tracts also in Latin.

PFEFFERS, a town and abbey, in the Helvetic republic, and late county of Sargans; founded in 720; and in 1196, the abbot was made a prince of the empire. It has some famous baths; and is 4 miles S. of Sargans.

PFEFFIKON, a town of the Helvetic republic, in Zurich; 10 miles E. of Zurich.

PFEFFINGEN, a town of the Helvetic republic, in Basil; 4 miles S. of Basil.

PFEIFFER. See PFIFFER.

(1.) PFETER, a river of Germany, which runs into the Danube, near the town, N° 2.

(2.) PFETER, a town of Lower Bavaria, at the mouth of the above river; 9 miles NW. of Straubing, and 14 E. of Ratisbon.

PFEUTERBACH, a river of Suabia, which runs into the Rhine; 5 miles W. of Ettingen, in Baden.

(1.) PFIFFER, or PFEIFFER, Augustus, a learned German, born at Lawenburg. He was 8 years superintendant of the churches in Lubec, and became professor of oriental languages at Leipsick; where he died in 1698.

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(2.) PFEFFER, Lewis, a brave Swiss general, in the service of France under Charles IX. With 8000 men drawn up in a hollow square, he preserved the life of that monarch, in the famous retreat of *Meaux*, against all the efforts of the Pr. of Conde. But his chief merit lay in his mechanical and topographical exertions. He made a model of Switzerland, the most extraordinary thing of the kind ever executed. (See MODEL § 6.) He was elected *Advoyer*, or chief magistrate of Lucerne, and died in that city and office, in 1594.

PFIN, a town of the Helvetic republic, in the Valais; 12 miles E. of Sion.

PFINZ, a river of Suabia, which rises a mile N. of Wildbad; passes Durlach, and falls into the Rhine, one mile above Germersheim.

PFIRT, or FORETTE, a town of France, in the dep. of the Upper Rhine, and ci-devant prov. of Alsace; 10 miles W. of Basil. Lon. 7. 20. E. Lat. 47. 37. N.

PFLAU, a town of Tyrol, 16 m. W. of Bolzano.

PFORING, a town of Upper Bavaria, surrounded with walls, on the Danube; 14 miles E. of Ingoldstadt, and 7 W. of Abensperg.

PFORTA, a town of Upper Saxony, in Thuringia, on the Saal; 2 miles SW of Naumburg.

PFORTEN, a town of Lusatia, 12 miles S. of Guben, and 62 NNE. of Dresden.

PFORTSHEIM, or PFORTZHEIM, a town of Suabia, in the electorate of Baden, with a castle, seated on the Entz, at its conflux with the Nagold and Wurm. In 1689, it was taken and sacked by the French. It is 15 miles SE. of Durlach, and 20 WNW. of Stutgard. Lon. 9. 46. E. Lat. 48 57. N.

PFRAM, a town of Austria, 6 miles SW. of Markeck.

PFREIMB, or PFREIMBT, a town of Bavaria, in the Upper Palatinate, with a castle, at the confluence of the Pfreint and Nab; 20 miles NE. of Amberg. Lon. 12. 21. E. Lat. 49. 21. N.

PFREINT, a river of Bavaria, which runs into the Nab, at Pfreimb.

PFULINGEN, a town of Suabia, in Wirtemburg; 2 miles S. of Reutlingen, and 20 S. of Stutgard.

PFULLENDORF, an imperial town of Germany, in Suabia, on the Andalspach; 14 miles WSW. of Ravensburg, 18 NNE. of Constance, and 37 SW. of Ulm. Lon. 9. 27. W. Lat. 48. 8. N.

PFUNT, a town of Tirol, 15 m. W. of Bolzano.

PFYN, a town of the Helvetic Republic, in Zurich; 7 miles W. of Constance; and 28 NE. of Zurich.

PHACA, in botany, BASTARD MILK VETCH, a genus of the decandria order, belonging to the diadelphia class of plants; and in the natural method ranking under the 32d order, *Papilionaceæ*. The legumen is semiovular.

PHACIUM, a town of Thessaly. *Liv.* 32. c. 13.

PHACUSA, a town of Egypt, on the E. mouth of the Nile.

PHÆA, a famous sow which infested the neighbourhood of Cromyon. Theseus destroyed it as he was travelling from Trœzene to Athens to make himself known to his father. Some imagine that the boar of Calydon sprang from this sow. According to some authors, Phæa was a woman who prostituted herself to strangers, whom she murdered, and afterwards plundered.

PHÆACES, the people of PHÆACIA.

PHÆACIANS, They first inhabited Hyperia. See HYPERIA. They were noted for their indolence and luxury: hence Horace uses *Phæax* for a person indolent and sleek; and hence arose their insolence and pride. *Aristotle.*

PHÆACIA, one of the names of the island Corcyra. See CORCYRA, N° 1. This island was famous for producing large quantities of the finest flavoured apples. *Ovid, Juvenal, Propertius.* Alcinous was king of it, who rendered his name famous by his gardens and his hospitality to Ulysses. It is now called *Corfu*. See ALCINOUS; CORCYRA, N° 1 and 2; and CORFU.

PHÆCASIA, one of the SPORADES Isles.

PHÆDON, a disciple of Socrates, who had been seized by pirates in his youth; and the philosopher, who seemed to discover something common and promising in his countenance, bought his liberty for a sum of money, and ever after esteemed him. Phædon, after Socrates's death returned to Elis his native country, where he founded a sect of philosophers who compose what was called the *Eliac school*. The name of Phædon is affixed to one of Plato's dialogues.

PHÆDRA, in fabulous history, a daughter of Minos and Pasiphae; she married Theseus, by whom she was the mother of Acamas and Demophoon. They had lived for some time in conjugal felicity, when Venus, who hated all the descendants of Apollo, because he had discovered her amours with Mars, inspired Phædra with the strongest passion for Hyppolytus the son of Theseus, by the amazon Hyppolyte. This passion she long attempted to stifle, but in vain; therefore, in the absence of Theseus, she addressed Hippolytus with all the impudence of declining love. He rejected her with horror and disdain. She, to punish his coldness and refusal, at the return of Theseus, accused Hippolytus of attempts upon her virtue. He, without hearing Hippolytus's defence, banished him from his kingdom, and implored Neptune, who had promised him three of his requests, to punish him in an exemplary manner. As Hyppolytus fled from Athens his horses were suddenly terrified by a fatal ster, which Neptune had sent on the shore, and he was thus dragged through precipices and rocks, trampled under the feet of his horses, crushed under the wheels of his chariot. When his tragical end was known at Athens, Phædra confessed her crime, and hung herself in despair. She was buried at Trœzene, where her tomb is still to be seen in the age of Pausanias, near the temple of Venus, which she had built to appease the goddess propitious.

PHÆDRIA, a small town of Arcadia. *Pausan.*

PHÆDRUNTÆ. See OLYMPIA, N° 2.

(1.) PHÆDRUS, an ancient Latin writer, who composed five books of fables, in Iambic verse. He was a Thracian; and his being called *Augustus's freedman* in the title of the book, shows that he had been that emperor's slave. The fables of Phædrus remained buried in libraries altogether unknown to the public, until the close of the 15th century.

(2.) P

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(2.) PHÆDRUS, Thomas, a profeſſor of eloquence at Rome, early in the 16th century. He was canon of Lateran, and keeper of the library in the Vatican. He owed his riſe to the acting of Seneca's Hippolitus, in which he performed the part *Phædra*; whence he got the name of *Phædrus*. He died under the age of 50. Janus Parrhaſius, gives a liſt of ſeveral works, which were almoſt ready for public view.

PHÆDYMA, the daughter of OTANES, one of the 7 Perſian conſpirators, who, being married to the falſe Smerdis, diſcovered his impoſture to her father, by his want of ears, which had been cut off by Cambyſes. See PERSIA, § 7 and 8.

PHÆNARETE, the mother of SOCRATES, the philoſopher. She was a mid-wife by profeſſion.

PHÆNIAS, a peripatetic philoſopher, a diſciple of Ariſtotle. He wrote a hiſtory of Tyrants. *Diog. Laert.*

PHÆNNA, one of the GRACES. *Panſ.* ix. 35.

PHÆNOMENON. *n. ſ.* See PHENOMENON. This has ſometimes *phænomena* in the plural. [φαινόμενον.] An appearance in the works of nature. The paper was black, and the colours inlaid thick, that the *phænomenon* might be conſpicuous. *Newton.*

PHÆNOMENON, in philoſophy, denotes any remarkable appearance, whether in the heavens or earth, and whether diſcovered by obſervation or experiment.

PHAER, Thomas, M. D. an Engliſh phyſician, born in Pembrokeſhire. He graduated at Oxford 1559. He publiſhed ſeveral tracts on diſeaſes and their remedies; and was alſo celebrated as a poet. He tranſlated 9 books and part of the 10th into Engliſh verſe; and died in 1560.

PHÆSANA, an ancient town of Arcadia.

PHÆSTUM, in ancient geography: 1. a town of Crete: 2. a town of Macedonia. *Liv.* 36. c. 13.

PHAETON, in fabulous hiſtory, the ſon of Titus and Clymene, one of the Oceanides. Venus became enamoured of him, and entruſted him with the care of one of her temples. This rendered him vain and aſpiring; and having obtained of his father the direction of the chariot of the ſun one day, he was unable to guide the fiery ſteeds; and looſing the reins, Jupiter, to prevent conſuming the heavens and earth, ſtruck him with a thunderbolt, and hurled him from his ſeat into the river Eridanus or Po. His ſiſters Phaetuſa, Lampetia, and Phœbe, lamenting his loſs upon the banks, were changed by the gods into black poplar trees, and their tears into amber; and Cycnus king of Liguria, alſo grieving at his fate, was transformed into a ſwan. The poets ſay, that while Phaeton was driving the chariot of his father, the blood of the Ethiopians was dried up; and their bodies became black. The territories of Libya were likewiſe parched up; and ever ſince, Africa, unable to recover her original verdure and fruitfulneſs, remains exhibited a ſandy deſart. Some explain this mythological fable thus: Phaeton was a Ligurian prince, who ſtudied aſtronomy, and in whoſe age the neighbourhood of the Po was viſited with uncommon heats.

PHAETON, *n. ſ.* in mechanics, [from the name] a kind of high open carriage for pleaſure.

(III.) PHAETON, in ornithology, a genus of birds belonging to the order of anſeres; the characters of which are: The bill is ſharp, ſtraight and pointed; the noſtrils are oblong, and the hinder toe is turned forward. There are two ſpecies, *viz.*

1. PHAETON ÆTHEREUS, the tropic bird, is about the ſize of a partridge, and has very long wings. The bill is red, with an angle under the lower mandible. The eyes are encompaſſed with black, which ends in a point towards the back of the head. Three or four of the larger quill-feathers, towards their ends, are black, tipped with white; all the reſt of the bird is white, except the back, which is variegated with curved lines of black. The legs and feet are of a vermilion red. The toes are webbed. The tail conſiſts of two long ſtraight narrow feathers, tapereſt of equal breadth from their quills to their points. See *pl.* 273. "The name *tropic bird* (ſays Latham), given to this genus, ariſes from its being chiefly found within the tropic circles; but we are not to conclude, that they never ſtray voluntarily, or are driven beyond them; for we have met with inſtances to prove the contrary. There are ſeveral varieties: 1. One called by Latham the *white tropic bird*. It is leſs than the preceding, and is found in as many places. The plumage is in general a ſilvery white. 2. *The yellow tropic bird* is another variety, the plumage being a yellowiſh white. Theſe differences, Mr Latham thinks, ariſe merely from age, if they are not the diſtinguiſhing mark of ſex. 3. *The black-billed tropic bird* is ſmaller than any of the former. The bill is black; the plumage on the upper part of the body and wings is ſtriated, partly black and partly white: before the eye there is a large creſcent of black, behind it is a ſtreak of the ſame; the forehead and all the under parts of the body are of a pure white colour; the quills and tail are marked as the upper parts, but the ends of the firſt are white, and moſt of the feathers of the laſt are marked with duſky black at the tips; the ſides over the thighs are ſtriated with black and white; the legs are black. 4. *The red tailed tropic bird* is in length about two feet ten inches, of which the two tail feathers alone meaſure 1 foot 9 inches. The bill is red; the plumage white, tinged of an elegant pale roſe-colour; the creſcent over the eyes is ſomewhat abrupt in the middle; the ends of the ſcapulars are marked with black. This variety is diſtinguiſhed by two middle long tail feathers, which are of a beautiful deep red colour, except the ſhafts and baſe, which are black; the ſides over the thighs are duſky; and the legs are black.

2. PHAETON DEMERSUS, the *red-footed pinguin*, has a thick, arched, red bill; the head, back-part of the neck, and the back, of a duſky purpliſh hue, and breaſt and belly white; brown wings, with the tips of the feathers white; inſtead of a tail, a few black briſtles; and red legs. It is found on Pinguin iſle, near the Cape of Good Hope, is common all over the South Seas, and is about the ſize of a gooſe.

PHAETONTIADES, the ſiſters of Phaeton. See PHAETON, N° 1.

PHAETUSA. See PHAETON, N° 1.

PHÆUS, a town of Peloponneſus.

* PHAGEDENA. *n. ſ.* [φαγέδαινα; from φαγω, *edo*

edo, to eat.] An ulcer, where the ſharpneſs of the humour eats away the fleſh.

(1.) * PHAGEDENICK. PHAGEDENOUS. *adj.* [*phagedenique*, Fr.] Eating; corroding.—*Phagedenick* medicines, are thoſe which eat away fungous or proud fleſh. *Did.*—A bubo, according to its malignancy, either proves eaſily curable, or terminates in a *phagedenous* ulcer with jagged lips. *Wiſeman.*—When they are very putrid and corroſive, which circumſtances give them the name of foul *phagedenick* ulcers, ſome ſpirits of wine ſhould be added to the fomentation. *Sharp.*

(2.) PHAGEDENIC MEDICINES, thoſe uſed to eat off proud or fungous fleſh; ſuch as are all the cauſtics.

(3.) PHAGEDENIC WATER, in chemiſtry, denotes a water made from quicklime and ſublimate; and is very efficacious in the cure of phagedenic ulcers. To prepare this water, put 2 lb. of freſh quicklime in a large earthen pan, and pour upon it about 10 lb. of rain water; let them ſtand together for two days, ſtirring them frequently; at laſt leave the lime to ſettle well then pour off the water by inclination, filtrate it, and put it in a glaſs bottle, adding to it an ounce of corroſive ſublimate in powder: which from white becomes yellow, and ſinks to the bottom of the veſſel. The water being ſettled, is fit for uſe in the cleanſing of wounds and ulcers, and to eat off ſuperfluous fleſh, eſpecially in gangrenes; in which caſe may be added to it one 3d or 4th part of ſpirit of wine.

PHAGESIA, an ancient feſtival among the Greeks, obſerved during the celebration of the DIONYSIA: ſo called from the φαγυν, good *eating*; that then univerſally prevailed.

PHALACRINE, an ancient village of the Sabines, where Veſpaſian was born. *Suet.*

(I.) PHALÆNA, the MOTH, in zoology, a genus of inſects belonging to the order lepidopter. The feelers are cetaceous, and taper gradually towards the points; the wings are often bent backwards. The caterpillars of this genus vary much as to ſize, and conſiderably as to their ſhape and number of feet. It is remarkable, that caterpillars of almoſt every ſpecies of this genus are found with 10, 12, 14, and 16 feet. The laſt are the moſt common and the largeſt; (See N° iv.) "All the caterpillars of phalænæ, (ſays Barbut), after having ſeveral times caſt their ſlough, ſpin their cod, in which they are transformed to chryſalids. But the texture of the cod, the fineneſs of the thread of which it is compoſed, and the different matters joined to the threads, are infinitely various. The chryſalids of phalænæ are generally oblong ovals, not angulous as thoſe of butterflies, nor ſo ſoon transformed to perfect inſects. They remain a much longer time within the cod, the greateſt part not coming forth till the enſuing year. Some I have met with that remained in that ſtate during two or three years ſucceſſively. Heat or cold contribute greatly to forward or put back their final metamorphoſis; a fact which may be aſcertained by procuring them a certain degree of moderate heat, by which means one may ſee phalænæ brought forth upon one's mantle-piece in the depth of winter. The phalænæ or perfect inſects ſprung from thoſe cods, are generally more clumſy and heavy than butterflies; their colours are likewiſe more brown, dim, and obſcure, though there are ſome phalænæ whoſe colours are very lively and brilliant. Several of them fly only in the evening, keeping quiet and cloſe under leaves in the day-time, and this has induced ſome authors to give them the name of *night butterflies*. In ſummer evenings they find their way into rooms, attracted by the lights round which they are ſeen to hover. And indeed a ſure method of catching a great number of phalænæ is to hunt them by night in a bower with a lantern. They all reſort to the light of the lantern, about which great numbers of them may be caught. A remarkable circumſtance has been obſerved of the phalænæ, which is, that the females of ſome of them are without wings. By their looks they never would be taken for phalænæ. They have the appearance of a large, ſhort, ſix-legged, creeping animal, while their male is winged and active. Yet this heavy creature is a real phalæna, eaſily diſtinguiſhed by its antennæ. It even has wings but ſo ſhort that they are no more than ſmall protuberances placed at the extremity of the thorax, and that appear quite uſeleſs. Thoſe phalænæ whoſe females are deſtitute of wings are generally in the number of thoſe whoſe antennæ are pectinated. The unwinged females have antennæ ſimilar to thoſe of the males, but with ſhorter teeth only. Their body is alſo charged with ſcales, characteriſtic of inſects of this order."

(II.) PHALÆNÆ, FAMILIES OF. M. Barbut divides this extenſive genus into 8 families; viz.

i. PHALÆNÆ ALUCITÆ. The wings are ſplit, or divided into branches almoſt to the baſe.

ii. PHALÆNÆ ATTACÆ, whoſe wings incline downwards and are ſpread open; they have pectinated antennæ without a tongue, or pectinated antennæ with a ſpiral tongue, or cetaceous antennæ with a ſpiral tongue.

iii. PHALÆNÆ BOMBYCES, whoſe wings cover the body in a poſition nearly horizontal, and which have pectinated antennæ. They are either elingues, which want the tongue, or have it ſo ſhort as not to be manifeſtly ſpiral; their wings are either reverſed or deflected; or ſpirilingues, which have a ſpiral tongue; and are either hairy with ſmooth backs, or criſtatæ dorſo with a kind of creſt or tuft of hair on the back.

iv. PHALÆNÆ GEOMETRÆ, whoſe wings when at reſt are extended horizontally: the antennæ in one ſubdiviſion of this ſection are pectinated; in another cetaceous; the under wings in each of theſe diviſions are either angulated, or round with entire edges. "Amongſt the geometræ caterpillars (ſays Barbut) there are ſome very ſingular, whether for their colour, or the tubercles which they bear, or laſtly for the difference of their attitudes. Many reſemble ſmall branches or bits of dry wood; and that reſemblance muſt be a means of ſaving many of thoſe inſects from the voraciouſneſs of birds, who do not ſo eaſily diſcern them. Other caterpillars are very hairy, while ſeveral are quite ſmooth; the latter have a cleanlier look, whereas the hairy ones have ſomething hideous, and may even be hurtful when touched." They have 10 or 12 feet.

v. PHALÆ

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PHALENA

Plate CCIXXIII.

Phœnicopterus.

Fig. 1.

Fig. 2.

Fig. 4.

Fig. 5.

Fig. 3.

Phaeton

Projectiles
Fig. 12.

Phosphorus

Fig. 1.

Phosphorus

Fig. 2.

Fig. 12.

Fig. 14.

Fig. 17.

Fig. 16.

Fig. 15

Fig. 1.

PRISTIS

Fig. 3.

Fig. 4

Fig. 4.

Fig. 2.

Perspective Machine.

Fig. 5.

v. PHALÆNÆ NOCTUÆ, whose wings are incumbent as in the bombyces, from which they differ chiefly in the formation of the antennæ, which are cetaceous. They are either *elingues*, wanting tongues, or *spirilingues*, having spiral tongues.

vi. PHALÆNÆ PYRALIDES. The inner margins of the wings in this section are laid over the other; the wings themselves decline a little towards the sides of the body, and in shape resemble a delta; they have considerable palpi of different forms.

vii. PHALÆNÆ TINCÆ. The wings are wrapped up or folded round the body, so as to give the insect a cylindrical form; the forehead is stretched out or advanced forwards.

viii. PHALÆNÆ TORTRICES. The wings are nearly obtuse, their exterior margin is curve, and declines towards the sides of the body. They have short palpi.

(j) PHALÆNÆ, SPECIES OF. There are no fewer than 460 species. To describe them all would be impossible; but we shall mention a few.

1. PHALÆNA ALUCITA PENTADACTYLA, (N° 273.) The eyes of this species are black; the body is of a pale yellow. The wings are snow white, and the insect keeps them stretched asunder when at rest. The superior are divided in two, or rather appear composed of two stumps of bird's feathers united at the base. The inferior wings are likewise divided into three threads or claws, which are furnished on both sides with short fringes. The caterpillar is of a green colour, striped with black, and charged with a few hairs. It feeds upon grass, changes to a chrysalis about September, and appears a moth in August, frequenting woods.

2. PHALÆNA ATTACA PAVONIA MINOR. (See Plate 2.) The wings of this insect, says Barbut, are brown, undulated, and variegated, having some grey in the middle, and a margin one line broad; its colour yellowish grey. The under part has more of the grey cast, but the extremities of the wings before the margin have a broad band of brown. The 4 wings both above and beneath, have each a large eye, which eyes are black encompassed with a dun-coloured circle, and above that with a semicircle of white, then another of red, and lastly the eye is terminated by a whole circle of black. Across the middle of the eye is drawn transversely a small whitish line. The caterpillar is green, has 16 feet with rose-colour tubercula, charged with long hairs terminated by a small knob; besides which, it has dun-colour or purple rings. It is found upon fruit trees.

3. PHALÆNA NOCTUA ELINGUIS HUMULI, N° 3. In this species the wings of the male are of a grey white; of the female yellowish, with streaks of a deeper hue; the shoulders, abdomen, &c. in both sexes, are deep yellow. The antennæ are pectinated and shorter than the thorax. The caterpillar feeds upon the roots of burdock, hops, &c. changes into a chrysalis in May, appears in the winged state in June, frequenting low marshy grounds where hops grow.

4. PHALÆNA NOCTUA PRONUBA SPIRILINGUIS, N° 4. The thorax, head, antennæ, feet, and upper wings, are of a brown colour, more or less dark, sometimes so deep as to be nearly black, but often of a bluish cast. The upper wings are moreover somewhat clouded, and have two black spots, on the middle, the other towards the outward angle of the lower part of the wing. The under ones are of a beautiful orange colour, with a broad black band near the lower edge of the wing, of which it follows the direction. The caterpillar is smooth; to be found on several plants, but particularly upon the thlaspi and some other cruciferous plants. It keeps in concealment during the day, and only feeds by night. Its metamorphosis is performed under ground, and some varieties of colour are observable amongst these caterpillars; some being green, others brown; which latter yield males, the former females.

5. PHALÆNA TORTRIX PRASINANA. The superior wings of this species are of a fine green colour, having two diagonal yellow bars on each, the body and inferior wings are whitish, shaded with yellowish green. The caterpillar is a pale yellowish green, ornamented with small brown specks or spots, the tail being forked and tipt with orange red colour; it feeds on the oak, changes to a chrysalis in September, and assumes the fly state about May, frequenting woods.

PHALÆSIA, a town of Arcadia. *Paus.* 8.

PHALANGIUM, in zoology, a genus of insects belonging to the order of aptera. They have 8 feet, two eyes on the top of the head placed very near each other, and other two on the sides of the head: the feelers resemble legs, and the belly is round. There are 9 species: Mr Barbut describes only one species, viz.

PHALANGIUM OPILIS of Linnæus. "Its body is roundish, of a dusky brown on the back, with a duskier spot of a rhomboidal figure near the middle of it. The belly is whitish; the legs are extremely long and slender. On the back part of the head there stands a little eminence, which has on it a kind of double crest, formed as it were of a number of minute spines; the eyes are small and black, and are two in number. It is commonly called the *shepherd spider*. This species of spider multiplies singularly. They are great spinners. In autumn the stubble is quite covered with the threads of these spiders, by means of which they travel with ease, and ensnare their prey. However, those threads are thought rather to be the produce of a species of tick called *autumnal weaver*. A small degree of attention discovers an amazing multitude of those ticks almost imperceptible, and that is their work. The threads, when united, appear of a beautiful white, wave about in the air, and are known in the country by the name of *virgin's threads*. Some naturalists think, that those threads, floating in the air, serve the insect as sails to waft it through the air, and as a net to entrap insects on the wing; for remnants of prey, say they, are discoverable in them. As to those parcels in which nothing is seen, they are only essays rejected by those travelling insects. The analogy between the phalangium and the crab, and the facility with which it parts with its legs to save the rest of the body, has raised a presumption that its legs might grow again as do those of the crabs and lobsters.

PHALAN

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PHALANGOSIS, in furgery, a tumor and relaxation of the eye-lids, often ſo great as to deform the eye, and conſiderably to impede viſion. Sometimes the eye-lid when in this ſtate ſubſides or ſinks down, occaſioned perhaps either by a palſy of the muſcle which ſuſtains and elevates the eye-lid, or elſe from a relaxation of the cutis above, from various cauſes. Sometimes an œdematous or aqueous tumor is formed on the eye-lids, ſo as almoſt entirely to exclude viſion; but this laſt caſe ſhould be diſtinguiſhed from the other, and may be eaſily remedied by the uſe of internal and topical medicines, ſuch as purges and diuretics given inwardly, and a compreſs dipped in warm ſpirit of wine and lime water. But in the paralytic or relaxed caſe, the uſe of cordial and nervous medicines muſt be propoſed internally; and outwardly, balſam of Peru and Hungary water are to be employed. If all theſe fail, the remaining method of cure is to extirpate a ſufficient quantity of the relaxed cutis; and then, after healing up the wound, the remainder will be ſufficiently ſhortened.

PHALANNA, a town of Theſſaly. *Liv.* 42. c. 54.

(1.) PHALANTHUS, a Spartan, the ſon of Aracus, and leader of the PARTHENII, who founded TARENTUM, in Italy. He was ſhipwrecked on the coaſt, but was carried aſhore by a dolphin.

(2, 3.) PHALANTHUS, a town and mountain of Arcadia. *Pauſ.* viii. 35.

(1.) * PHALANX. *n. ſ.* [*phalanx*, Lat. *phalange*, Fr.] A troop of men cloſely embodied.—

Par otherwiſe th' inviolable ſaints,
In cubic *phalanx* firm, advanc'd entire. *Milt.*
The Grecian *phalanx*, moveleſs as a tow'r,
On all ſides batter'd, yet reſiſts his pow'r.
Pope.

(2.) PHALANX, in Grecian antiquity, a ſquare battalion of ſoldiers, with their ſhields joined, and pikes croſſing each other; ſo that it was next to impoſſible to break it. The Macedonian phalanx is ſuppoſed by ſome to have had the advantage, in valour and ſtrength, over the Roman legion. It conſiſted of 16,000 men, of whom 1000 marched abreaſt, and thus was 16 men deep, each of whom carried a kind of pike 23 feet long. The ſoldiers ſtood ſo cloſe, that the pikes of the 5th rank reached their points beyond the front of the battle. The hindermoſt ranks leaned their pikes on the ſhoulders of thoſe who went before them, and, locking them faſt, preſſed briſkly againſt them when they made the charge; ſo that the firſt five ranks had the impetus of the whole phalanx, which was the reaſon why the ſhock was generally irreſiſtible. But the word *phalanx* was alſo uſed for a party of 28, and ſeveral other numbers; and even ſometimes for the whole body of foot. See LEGION.

(3.) PHALANX is applied, by anatomiſts, to the three rows of ſmall bones which form the fingers.

(4.) PHALANX, in natural hiſtory, is a term which Dr Woodward and ſome other writers of foſſils have uſed to expreſs an arrangement of the columns of that ſort of foſſil coralloid body found frequently in Wales, and called *lithoſtrotion*. In the great variety of ſpecimens we find of this, ſome have the whole phalanx of columns cracked through, and others only a few of the external ones; but theſe cracks never remain empty, but are found filled up with a white ſpar, as the ſmaller cracks of ſtone uſually are. This is not wonderful, as there is much ſpar in the compoſition of this foſſil; and it is eaſily waſhed out of the general maſs to fill up theſe cracks, and is then always found pure, and therefore of its natural colour, white. The LITHOSTROTION or general congeries of theſe phalanges of columns, is commonly found immerſed in a gre ſtone, and found on the tops of the rocky cl about Milford in Wales. It is uſually erec though ſomewhat inclining in ſome ſpecime but never lies horizontal. It ſeems to have b all white at firſt, but to have been ſince grad ly tinctured with the matter of the ſtone in wh it lies. The ſingle columns, which form e phalanx, are uſually round or cylindric, thou ſometimes flatted and bent; ſome of them are ſo naturally of an angular figure; theſe, howe are not regular in the number of their ang ſome conſiſting of 3 ſides, ſome of 5, and of 7; ſome are hexangular alſo, but theſe ſcarce. They are from 5 or 6 to 16 inches length; and the largeſt are near half an inch ver, the leaſt about a quarter of an inch; greater number are very equal to one another ſize; but the ſides of the columns being uneq the ſame column meaſures of a different th neſs when meaſured different ways; the pha ges or congeries of theſe are ſometimes of a or more in diameter. The columns are o burſt, as if they had been affected by ext injuries; and it is evident that they were formed before ſeveral other of the extraneous ſils; for there are found ſometimes ſhells of fiſhes and entrochi immerſed and bedded in bodies of the columns. It appears plainly hence, that when theſe bodies were waſhed of the ſea, and toſſed about in the waters then covered the tops of theſe cliffs, this foſſil, together with the ſtony bed in which contained, were ſo ſoft, that thoſe other bo found entrance into their very ſubſtance, and were formed as it were upon them. This takes an elegant poliſh, and makes in that a very beautiful appearance, being of the neſs of the common white marble, and carry the elegant ſtructure viſible in the ſmalleſt im ments.

(1.) PHALARIS, a remarkable tyrant, bor Crete, where his ambitious deſigns occaſioned baniſhment: he took refuge in Agrigentum free city of Sicily, and there obtained th preme power by ſtratagem. What has ch contributed to preſerve his name is his cru in one act of which, however, he acted with juſtice. Perilius, a braſs founder at Athens, k ing his diſpoſition, invented a new mode of ture. He made a brazen bull, hollow within ger than the life, with a door in the ſide to a the victims; who being ſhut up in it, a fire kindled under it, to roaſt them to death; and throat was ſo contrived, that their dying gro reſembled the roaring of a bull. The artiſt brou

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it to the tyrant, in hopes of a great reward. Phalaris admired the invention, but ordered the inventor to be put into it, to make the firſt trial. The end of this deteſtable tyrant is differently related; but it is very generally believed, with Cicero, that he fell by the hands of the Sicilians; and, as ſome ſuppoſe, at the inſtigation of Pythagoras. Ovid tells us, that his bronze was cut out; and that he was then put into the brazen bull. He reigned, Euſebius ſays, 16 years. See BENTLEY, § i, 1.

(II.) PHALARIS, CANARY GRASS, in botany, a genus of the trigynia order, belonging to the triandria claſs of plants. The calyx is bivalved, ventricated, and equal in length, containing the corolla. There are ten ſpecies, of which the moſt remarkable are,

1. PHALARIS ARUNDINACEA, *the reed Canary graſs*; and

2. PHALARIS CANARIENSIS, *the manured Canary Graſs*. Theſe are both natives of Britain. The firſt grows by the road ſides; and is frequently cultivated for the ſake of the ſeeds, which are found to be the beſt food for the Canary and other ſmall birds. The ſecond grows on the banks of rivers. It is uſed for thatching ricks or ſtacks, and endures much longer than ſtraw. In Scandinavia they mow it twice a-year, and the cattle eat it. There is a variety of this cultivated in our gardens with beautifully ſtriped leaves. The ſtripes are generally green and white; but ſometimes they have a purpliſh caſt. It is commonly called *painted lady-graſs*, or *lady's-meſſes*.

PHALARIUM, a citadel of Syracuſe, where Phalaris's bull was kept.

PHALARUS. a river of Bœotia, running into the Cephiſus. *Pauſ.* ix. 34.

PHALEG. See PELEG.

PHALEMPIN, a town of France, in the dep. of the North; 9 miles SW. of Liſle.

PHALERÆ, among the ancient Romans, were military rewards beſtowed for ſome ſignal act of bravery. Authors do not agree whether the phaleræ were a ſuit of rich trappings for a horſe, golden chains ſomething like the torques, but formed ſo as to hang down to the breaſt and diſcover a greater profuſion of ornament. The laſt opinion prevails, but perhaps both are true.

PHALEREUS, a village and port of Athens; but it is neither large nor commodious, for which reaſon Themiſtocles put the Athenians on building the Piræeus; both joined to Athens by long walls. *(Veſpas.)* The Phalereus lay nearer the city. *(Pauſanias.)* Demetrius Phalereus was of this place. See DEMETRIUS, N° 7.

PHALERIA, a town of Theſſaly. *Liv.* 32.

PHALERON, } names given the Phalereus
PHALERUM, } Portus of Athens. See PHALEREUS.

PHALEUCIAN VERSE, in ancient poetry, a kind of verſe conſiſting of five feet; the firſt of which is a ſpondee, the ſecond a dactyl, and the three laſt trochees.

PHALEUCUS, a Roman poet, who invented the phaleucian verſe.

PHALLICA, feſtivals obſerved by the Egyptians in honour of Oſiris. The name is derived from φαλλος, *ſimulacrum ligneum membri virilis*. See PHALLUS, N° II.

PHALLOPHORI, perſons, who carried the *phallus* at the end of a long pole, at the feſtivals of the PHALLICA. (See laſt article, MYSTERIES, § 28; and PHALLUS, N° II.) They appeared among the Greeks, beſmeared with the dregs of wine, covered with the ſkins of lambs, and wearing a crown of ivy.

(I.) PHALLUS, the MOREL, in botany, a genus of the order of fungi, belonging to the cryptogamia claſs of plants. The fungus is reticulated above, and ſmooth below. There are two ſpecies.

1. PHALLUS ESCULENTUS, the eſculent morel, is a native of Britain, growing in woods, groves, meadows, paſtures, &c. The ſubſtance, when recent, is wax-like and friable; the colour a whitiſh yellow, turning browniſh in decay; the height of the whole fungus, about four or five inches. The ſtalk is thick and clumſy, ſomewhat tuberous at the baſe, and hollow in the middle. The pileus is either round or conical; at a medium, about the ſize of an egg, often much larger; hollow within; its baſe united to the ſtalk; and its ſurface cellular, or latticed with irregular ſinuſes. The magnified ſeeds are oval. It is much eſteemed at table both recent and dried, being commonly uſed as an ingredient to heighten the flavour of ragouts. We are informed by Micheli, that morels are obſerved to grow in the woods of Germany in the greateſt plenty in thoſe places where charcoal has been made. Hence the good women who collect them to ſell, receiving a hint how to encourage their growth, have been accuſtomed to make fires in certain places of the woods, with heath, broom, vaccinium, and other materials, in order to obtain a more plentiful crop. This ſtrange method of cultivating morels being however ſometimes attended with dreadful conſequences, large woods having been ſet on fire and deſtroyed by it, the magiſtrate thought fit to interpoſe his authority, and the practice is now interdicted.

2. PHALLUS IMPUDICUS, ſtinking morel, or ſtinkhorns, is alſo a native of Britain, and found in woods and on banks. It ariſes from the earth under a veil or volva, ſhaped exactly like a hen's egg, and of the ſame colour, having a long fibrous radicle at its baſe. This egg-like volva is compoſed of two coats or membranes, the ſpace between which is full of a thick, viſcid, tranſparent matter, which, when dry, glues the coats together, and ſhines like varniſh. In the next ſtage of growth, the volva ſuddenly burſts into ſeveral lacerated permanent ſegments, from the centre of which ariſes an erect, white, cellular, hollow ſtalk, about 5 or 6 inches high, and one thick, of a wax-like friable ſubſtance, and moſt fetid cadaverous ſmell, conical at each end, the baſe inſerted in a white, concave, membranaceous turbinated cup, and the ſummit capped with a hollow, conical pileus, an inch long, having a reticulated cellular ſurface, its baſe detached from the ſtalk, and its ſummit umbilicated, the umbilicus ſometimes perforated, and ſometimes cloſed. The under ſide of this pileus is covered with a clear,

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a clear, viſcid, gelatinous matter, ſimilar to that found between the membranes of the volva; and under this viſcid matter, concealed in reticulated receptacles, are found the ſeeds, which when magnified appear ſpherical. As ſoon as the volva burſts, the plant begins to diffuſe its intolerable odours, which are ſo powerful and widely expanded, that the fungus may be readily diſcovered by the ſcent only, before it appears to the ſight. At this time, the viſcid matter between the coats of the volva grows turbid and fuſcous; and when the plant attains its full maturity, the clear viſcid ſubſtance in the pileus becomes gradually diſcoloured, putrid, and extremely fetid, and ſoon afterwards turns blackiſh, and, together with the ſeeds and internal part of the pileus itſelf, melts away. The fetid ſmell then begins to remit, the fungus fades, and continues for a ſhort time ſapleſs and coriaceous, and at laſt becomes the food of worms. The cadaverous ſcent of this fungus greatly allures the flies; which, lighting upon the pileus, are entrapped in the viſcid matter, and periſh. We are informed by Gleditſch, that the people in Thuringia call the unopened volvæ by the ridiculous name of *ghoſts* and *dæmon's eggs*; and that they collect and dry them either in the ſmoke or open air, and when reduced to powder, uſe them in a glaſs of ſpirits as an aphrodiſiac.

(II.) PHALLUS, among the Egyptians, was the emblem of fecundity. It was very ſervently worſhipped by women, eſpecially by thoſe who were barren. This cuſtom was introduced among the Greeks, and feſtivals in honour of it were called PHALLICA, or *phaluca*. See MYSTERIES, § 20—27. Among the Hindoos a ſimilar emblem called *lingam* is uſed, and for ſimilar purpoſes. See HINDOOS.

PHALSBURG, a town of France, in the dep. of the Meurthe, fortified by Vauban; 4½ miles ENE. of Sarreburg, and 4¼ W. of Savern.

PHALTI, or } ſon of Laiſh. He married Mi-
PHALTIEL, } chal, after Saul had taken her from David; but David afterwards took her away from Phalti. (1 Sam. xxv. 44. 2 Sam. iii. 15.) It appears from 2 Sam. xxi. 8. that Michal had children by Phalti, as it is certain ſhe had none by David. See 2 Sam. vi. 23.

PHANÆUS, a promontory of Chios, famous for its wines. *Liv.* 36. c. 43.

PHANAGARA, a town of Ruſſia, in Caucaſus, at the mouth of the Kuban, in the Black Sea; 60 miles E. of Theodoſia.

PHANAGORIA, a beautiful little iſland of Aſia, on the E. ſide of the Strait of Caſta, between the Black Sea and the Sea of Aſoph.

PHANARÆA, a town of Cappadocia. *Strab.*

PHANATIC, *n. ſ.* or FANATIC, a viſionary; one who fancies he ſees ſpectres, ſpirits, apparitions, or other imaginary objects, even when awake; and takes them to be real. See PHANTASY and FANATIC. Such are phrenetics, necromancers, hypochondriac perſons, lycanthropi, &c. See PHRENETIC, HYPOCHONDRIAC, LYCANTHROPI. Hence the word is alſo applied to enthuſiaſts, pretenders to revelation, new lights, prophecies, &c. See ENTHUSIAST, and SECOND SIGHT.

PHANES, a native of Halicarnaſſus, who was commander of the Grecian auxiliaries, ſent to aſſiſt Amaſis, K. of Egypt, whom he deſerted. See EGYPT, § 10, 11.

PHANETA, a town of Epirus. *Liv.* xxxii. c. 28.

PHANOCLES, an ancient elegiac poet of Greece, who wrote a poem upon an unnatural crime, wherein he ſuppoſes that Orpheus was the firſt who practiſed it. Some fragments of his poems are extant.

PHANODEMUS, an ancient Grecian hiſtorian, who wrote on the antiquities of Attica.

PHANTASIA, the daughter of Nicarchus of Memphis, in Egypt. It has been ſaid that ſhe wrote a poem on the Trojan war, and another on the return of Ulyſſes to Ithaca, from which compoſitions Homer copied the greateſt part of his Iliad and Odyſſey, when he viſited Memphis where they were depoſited.

(1.) * PHANTASM. PHANTASMA. *n. ſ.* [φαντασμα, φαντασια; *phantaſme, phantaſie*, Fr.] Vain and airy appearance; ſomething appearing only to imagination.—

Like a *phantaſma* or a hideous dream. *Sh.*
This armado is a Spaniard that keeps here court
A *phantaſm*, a monarcho. *Sh.*

—They believe, and they believe amiſs, becauſe they be but *phantaſms* or apparitions. *Raleigh.*

If the great ones were in forwardneſs, the people were in fury, entertaining this airy body or *phantaſm* with incredible affection. *Bacon.*—

In this infernal vale firſt met; thou call'ſt
Me father, and that *phanta'm* call'ſt my ſon. *Milt.*

Aſſaying, by his deviliſh art, to reach
The organs of her fancy, and with them forge
Illuſions, as he laſt, *phantaſms* and dreams. *Milt.*

(2.) PHANTASM is alſo ſometimes uſed in a ſynonymous ſenſe with *idea*, or *notion* retained in the mind, of an external object.

* PHANTASTICAL. } See FANTASTICAL.
* PHANTASTICK. }

(2.) PHANTASTICK IDEAS. See METAPHYSICS, *Part* I. *Sect.* XXV.

PHANTASY, *n. ſ.* or FANCY, the IMAGINATION; the ſecond of the powers or faculties of the ſoul, by which the ſpecies of objects received by the external organs of ſenſe are retained, recalled, further examined, and either compounded or divided. See IMAGINATION, and METAPHYSICS, *Part* I. *Sect.* IX, X, and XXV. Others define phantaſy to be that internal ſenſe or power, which by the ideas of abſent things are formed, and preſented to the mind as if they were preſent. In melancholics and madmen, this faculty is very ſtrong, repreſenting many extravagant and monſtrous things, and framing its images as lively as thoſe of ſenſation: whence the viſions and dreams thoſe perſons are liable to.

* PHANTOM. *n. ſ.* [*phantome*, French.] A ſpectre; an apparition.—What this airy *phantom* ſaid is not abſolutely to be relied on. *Addiſon.*

A conſtant vapour o'er the palace flies;
Strange *phantoms* riſing as the miſts ariſe. *Pope.*

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2. A fancied vision.—To try every overture of present happiness, he hunts a *phantom* he can never overtake. *Rogers.*—

To cam the queen, the *phantom* sister flies.
Pope.

PHANUEL, of the tribe of Asher, the father of the prophetess, Anna. See ANNA, N° 1. and Luke ii. 36–38.

PHAON, in fabulous history, a young man of Mytilene, in the island of Lesbos, who received from Venus an alabaster vase filled with an essence which had the virtue of conferring beauty. He had no sooner anointed his body with it than he became the most beautiful of men. The ladies of Mytilene fell desperately in love with him; and the celebrated Sappho threw herself down a precipice, because he would not encourage her passion. He is said to have been killed by a husband who surprised him with his wife. Ovid, in his *Epistles*, gives a letter from Sappho to Phaon, which Mr Pope has translated into English verse.

PHARA, in ancient geography, a village between Egypt and Arabia Petræa; or, according to Ptolemy, at a promontory situated between the Sinus Heroopolites and Elaniticus of the Red Sea; where Ismael is said to have dwelt. In Hebrew it is PARAN, and in most interpreters; PHARAN, in the Septuagint and Vulgate.

PHARA. See PHARÆ.

PHARACYDES, a commander of the Spartan fleet, who assisted Dionysius, tyrant of Syracuse, against the Carthaginians. *Polyæn.* 2.

PHARÆ, in ancient geography, 3 towns, viz. a town of Achaia in Peloponnesus, on the Pirean, 70 stadia from the sea, and 150 S. of Patræ. 2. A town of Crete, (*Pliny,*) a colony from the *Pharæ* of Thessalia. (*Stephanus.*) 3. *Pharæ*, or *Pleræ* (Strabo, Ptolemy,) or PHARA, (*Polybius*) a town of Messenia, on the Nedo, (*Strabo,*) on the N. side of the Sinus Messenius, and NW. of Abea. Anciently read PHARIS in Homer, (*Pausanias, Statius*) though now read PHARE.

PHARAMOND, the first king of France. He is said to have reigned at Treves, and over a part of France, about A. D. 420; and to have been succeeded by his son Clodio. See FRANCE, § 4 & 5. The institution of the famous *Salique* law is generally attributed to him.

PHARAN, or PARAN, the name of the desert in the neighbourhood of PHARA, adjoining to Kadesh.

PHARAN, a town of Arabia Petræa, on the coast of Suez, formerly a bishop's see, but now much decayed: 40 miles N. of Tor.

PHARAN. See PHARA.

PHARANITÆ, the natives of PHARÆ. *Ptol.*

PHARAOH, [פַּרְעֹה,] *Heb.* i. e. making bare.] a common name of the kings of Egypt. Josephus says that in the Egyptian language the word *Pharaoh* signifies a *king*; and that those princes did assume this name till they ascended the throne, when they quitted also their former name. There were ten monarchs of this name, mentioned in scripture: viz.

1. PHARAOH, in whose time Abraham went down to Egypt, when Sarah, who passed only for Abraham's sister, was by the command of Pharaoh brought to his palace to become his wife. See ABRAHAM and SARAH.

2. PHARAOH, who reigned when Joseph arrived in Egypt. See JOSEPH and JACOB.

3. PHARAOH, who persecuted the Israelites, and published a decree that all the male children born of Hebrew women should be thrown into the Nile.

4. PHARAOH, before whom Moses performed many miracles, and in whose sight Egypt was visited with ten dreadful plagues, Exod. vii—x. This Pharaoh having at last been compelled to send away the Hebrews, and to suffer them to go out of Egypt, repented of the leave he had given, and pursued them at the head of his army with his chariots. But he was drowned in the Red Sea, wherein he had rashly entered in the eagerness of his pursuit. (Exod. xiv.) Some historians give us the name of this Pharaoh; Appion calls him AMASIS; Eusebius calls him *Chenchris*; Usher calls him *Amenophis.*

5. PHARAOH, who gave protection to Hadad, son of the king of Edom, who gave him to wife the sister of his own queen, enriched him with lands, and brought up his son Genubah in his own court. 1 Kings xi, 17—22.

6. PHARAOH, who gave his daughter in marriage to Solomon; (1 Kings iii. 1.); having taken Gezer, set it on fire, drove the Canaanites out of it, and gave it for a present to Solomon, in lieu of a dowry for his daughter. 1 Kings ix. 16

7. PHARAOH, or SHISHAK, who entertained Jeroboam in his dominions when he fled from Solomon. He also declared war against Rehoboam, besieged and took Jerusalem, carried away the king's treasures, and those of the house of God, particularly the golden bucklers that Solomon had made. Some think he was the brother of Solomon's queen, and did this to avenge the neglect of his sister by Solomon. See EGYPT, § 8; SHISHAK; and 1 Kings, xiv, 25—29.

8. PHARAOH, with whom Hezekiah made a league against Sennacherib king of Assyria, A. M. 3290. See SENNACHERIB. He is probably the same whom Herodotus name SETHON, priest of Vulcan, who came to meet Sennacherib before Pelusium, and to whose assistance Vulcan was believed to have sent an army of rats, which gnawed the bow-strings and the thongs of the bucklers of Sennacherib's soldiers. See EGYPT, § 9.

9. PHARAOH NECHO, or *Necbos*, son of Psammiticus, who made war with Josiah, and subdued him. See 2. Chron. xxxv. 20—24. Herodotus also mentions this prince. See EGYPT, § 10; and NECHO II.

10. PHARAOH HOPHRAH, who entered into an alliance with Zedekiah K. of Judah, and attempted to assist him against Nebuchadnezzar king of Chaldea. Against this Pharaoh Ezekiel pronounced several of his prophecies. (See Ezek. xxix.-xxx.) He is called Apries in Herodotus, l. ii. c. 161. He is also mentioned in Habakkuk ii. 15, 16. See also Isaiah xix. 11. and Jeremiah xlvi. 16, &c. See APRIES, and EGYPT, § 10.

PHARAON or FARO, is the name of a game of chance, the principal rules of which are: the banker holds a pack consisting of 52 cards; he draws all

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all the cards one after the other, and lays them down alternately at his right and left hand; then the ponte may at his pleasure set one or more stakes upon one or more cards, either before the banker has begun to draw the cards, or after he has drawn any number of couples. The banker wins the stake of the ponte when the card of the ponte comes out in an odd place on his right hand but loses as much to the ponte when it comes out in an even place on his left hand. The banker wins half the ponte's stake when it happens to be twice in one couple. When the card of the ponte being but once in the stock happens to be last, the ponte neither wins nor loses; and the card of the ponte being but twice in the stock, and the last couple containing his card twice, he then loses his whole stake.

PHARAS. See PERSIA, § 2.

PHARE, *n. f.* [*pharus*, Lat. φαρος, Gr.] A watch tower; a light-house. *Bailey.* See PHAROS.

PHAREZ, son of Judah and Tamar (Gen. xxxv ii. 27, 28, &c.) so named, from the circumstance attending his birth, by his mother, *Pharez*, i. e. *one braking forth.* His sons are mentioned in Numb. xxvi. 20, 21. and his posterity down to Joseph and Mary, in Matt. i. and Luke, iii.

PHAREZITES, the descendants of PHAREZ.

(1.) PHARIS. See PHARÆ.

(2.) PHARIS, a town of Laconia. *Paus.* iii. c. 10.

* PHARISAICAL. *adj.* [from *pharisee.*] Ritual, externally religious, from the sect of the Pharisees, whose religion consisted almost wholly in ceremonies.—The causes of superstition are pleasing and sensual rites, excess of outward and *pharisaical* holiness. *Bacon.*—Suffer us not to be deluded with *pharisaical* washings. *King Charles.*

PHARISAICALNESS, *n. f.* Acting hypocritically *Bailey.*

PHARISAISM, *n. f.* The profession or opinions of the Pharisees; also hypocrisy. *Bailey.* Serrarius places the origin of Pharisaism about the time of Ezra; Maldonat makes it only to have arisen a short time before our Saviour's birth. Others, with more probability than either, refer it to the time of the Maccabees.

PHARISEES, a famous sect of the Jews, who distinguished themselves by their zeal for the traditions of the elders, which, they pretended were delivered to Moses from Mount Sinai, along with the law, and therefore both were of equal authority. From their rigorous observance of these traditions, they looked upon themselves as more holy than other men: and therefore separated themselves from those whom they thought sinners or profane, so as not to eat or drink with them; and hence, from the Hebrew word *pharis* i. e. *to separate*, they had the name of *Pharisees* or *Separatists.* This sect was one of the most ancient and most considerable among the Jews; but its original is not very well known. It was in great repute in the time of our Saviour, and must have had its original at the same time with the traditions; and they grew up together, till at length they had gained ground so far, that the traditional law swallowed up the written. They held a resurrection of the body, and supposed a certain bone to remain uncorrupted, to furnish the matter of which the resurrection body was to be formed. They did not, however, believe that all man were to be raised from the dead. A resurre was the privilege of the children of Abraha lone, who were all to rise on Mount Zion: incorruptible bones, wherever they might be ried, being carried to that mountain below surface of the earth. The state of future re in which the Pharisees believed, was very g They imagined, that men in the next worl well as in the present, were to eat and drink enjoy the pleasures of love, each being re to his former wife. Hence the objection by the Sadducees, which our Saviour so sat torily refuted. (See Matt. xxii, 23—33.) Pharisees seem to have had some confused no probably derived from the Chaldeans and Pe respecting the pre-existence of souls; and Christ's disciples asked him concerning the man. (See John ix. 2.) With the Essenes, held absolute predestination; and with the ducees free-will: but how they reconciled seemingly incompatible doctrines is nowhe plained. The sect of the Pharisees was not guished by the ruin of the Jewish common The greatest part of the modern Jews are f this sect; being as much devoted to traditi the oral law as their ancestors were. See C LISTS, KARAITES, ESSENES, SADDUCEES,

PHARITÆ, people of Pharis. See PHA

PHARKIRCHEN, a town of Lower Ba 19 m. SW. of Dingelfingen, and 24 W. of Pa

PHARKOVA, a town of Russia, in To on the Niznei Tunguska, 528 miles ESE. c ruchanik. Lon. 124. 40. E. Ferro. Lat. 61. 3

PHARMACA, among the ancients, mea dicated or enchanted compositions of herb nerals, &c. some of which, when taken inw were supposed to cause blindness, madness, &c. others infected by touch; such was th ment sent by Medea to Creusa, prepared *fe artem*; and others operated upon persons at tance. *Pharmaca soteria* were employed a dotes against these mischievous compos Thus the herb moly preserved Ulysses fro magical influence of Circe. The laurel, the nus, the flea-bane, the jasper-stone, were u similar purposes. See *Potter's Grec. Ant.*

(1.) * PHARMACEUTICAL. } *adj.* [
(1.) * PHARMACEUTICK. } φαρμακον, fro μακευω. Relating to the knowledge or art of macy, and preparation of medicines.

(2.) PHARMACEUTICK CHEMISTRY. See MACY, § 7, 8.

(3.) PHARMACEUTIC OPERATIONS. See MACY, *Append. Sect.* V.

PHARMACI, were two persons who wer ployed in the lustration or purification of Some say they were both men; but others tain, that a man to represent the males, woman to represent the females, performe offices. They performed sacrifice, and wor about their necks called ολλαι; those of th were blackish, and those of the woman Figs were an emblem of fertility, which doubtless prayed for on these solemn occas

PHARMACITIS. See AMPELITES.

PHARMACO-CHEMIA, a branch of the mical art, which treats of the preparation o dic

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dicines. It is so named by way of distinction from SPAGIRICO-CHEMIA, that species of chemistry which is wholly employed about the transmutation of metals by the philosopher's stone.

• PHARMACOLOGIST. *n. s.* [φαρμακον and λογος.] One who writes upon drugs.—The ostcocolla is recommended by the *pharmacologists* as an absorbent. *Woodward.*

(1.) • PHARMACOLOGY. *n. s.* [φαρμακον and λογος.] The knowledge of drugs and medicines.

(2.) PHARMACOLOGY, signifies also a treatise of medicines, or the art of preparing them, judging of them, &c.

(1.) • PHARMACOPOEIA. *n. s.* [φαρμακον and ποιεω; *pharmacopée*, Fr.] A dispensatory; a book containing rules for the composition of medicines.

(2.) PHARMACOPOEIA, [from φαρμακον, *remedy*, and ποιεω, *to make*,] means a treatise describing the preparations of medicines, with their uses, manner of application, &c. We have various pharmacopœias, as those of Bauderon, Quercetan, Zwelfer, Charas, Bates, Salmon, Lemery, Lewis, &c. The latest and most in esteem are the Edinburgh and London dispensatories. See PHARMACY.

PHARMACOPOEIUS, or PHARMACOPOLA, } an *apothecary*; or a person who prepares and sells medicines. (See APOTHECARY.) The word is seldom used but by way of ridicule. It is formed from φαρμακον and πωλεω, *to sell*. See Horace, Satire 2. lib. i. ver. 1.

* PHARMACOPOLIST. *n. s.* [φαρμακον and πωλεω; *pharmacopole*, Fr.] An apothecary; one who sells medicines.

PHARMACUM, [φαρμακον,] a medicament or medicine; whether of a salutary or poisonous quality.

PHARMACY.

DEFINITIONS AND DIVISIONS OF PHARMACY.

• PHARMACY. *n. s.* [from φαρμακον, a medicine; *pharmacie*, Fr.] The art or practice of preparing medicines; the trade of an apothecary.—

Each dose the goddess weighs with watchful eye,
Since her art in impious *pharmacy*. *Garth.*

PHARMACY is also the art of preserving, and compounding substances, for the purposes of medicine. This art has been commonly divided into two branches, called GALENICAL and CHEMICAL PHARMACY. But for this division there is no foundation in nature: and accordingly processes in the pharmacopœia referred to the head of Chemical, are in another referred to the head of Galenical. There can be no doubt, that even the most simple pharmaceutical preparations are to a certain extent chemical. Hence this division, founded on prejudice, and supported merely by a veneration for antiquity, is now banished from almost every modern pharmacopœia.

Pharmacy has also been divided into *Theoretical* and *Practical*; the first, consisting not merely of speculative opinions, but of a knowledge of facts and principles, tending to explain the principle of processes; the latter, comprehending the mere manual labour employed in processes.

The former of these may therefore be justly called *Scientific Pharmacy*. And there can be no doubt that an acquaintance with it is essentially necessary to the physician as well as the apothecary: for without it he must often err in the forms of preparations and compositions which he employs; and must be often deceived in the effects resulting from compositions, when he infers their properties from the known powers of the ingredients in their separate state.

The theory of pharmacy therefore is the same with that of chemistry; as are also the operations, which remain to be discussed here only in as far as they are made subservient to the medicinal art, distinct from that which is purely chemical. The objects of pharmacy, however, are much more limited than those of chemistry; the latter comprehending, in the utmost latitude of the word, almost every substance in nature; while pharmacy regards only such bodies in the vegetable, animal, and mineral kingdoms, as, by their effects on the human frame, tend to preserve health, or to restore it when lost.

INTRODUCTION.

6. THE ingenious Mr MURRAY, lecturer on Chemistry, Materia Medica, and Pharmacy, at Edinburgh, justly observes, in the preface to his *Elements of Materia Medica and Pharmacy*, lately published, that there is "no work adapted to convey just ideas on these branches of Medicine in their present state. With the exception of the new and valuable edition of the *Edinburgh Dispensatory* by Dr DUNCAN, *junior*, published since the greater part of this (Mr Murray's) treatise was written, there is no elementary work on Pharmacy, in which the discoveries of modern Chemistry are introduced: and former systems of Materia Medica, whatever may have been their merits, have in some measure become obsolete and deficient, in consequence of the changes that have taken place, within these 20 years, in the theory and practice of medicine, and in the sciences with which it is connected."

7. The first part of Mr MURRAY's excellent Treatise is allotted to the general principles of PHARMACEUTIC CHEMISTRY. For this branch of the subject, which is most ably handled by Mr Murray, we must refer our readers to the article CHEMISTRY, where the substance of these principles will be found; and shall here only add Mr Murray's general definition.

8. "PHARMACEUTIC CHEMISTRY is that department of chemical Science, which investigates the composition and chemical relations of bodies, with a view to their medicinal properties; and explains those operations, by which they are fitted to act with more efficacy or safety as remedies

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againſt diſeaſe. It includes thoſe facts and principles which connect Materia Medica and Pharmacy, the enumeration of which forms the proper introduction to the ſtudy of theſe two branches of Medicine."

9. MATERIA MEDICA forms the 2d diviſion of Mr Murray's uſeful work. For this too we muſt refer the reader to our article MATERIA MEDICA, as it is impoſſible to make room for Mr Murray's elegant and extenſive arrangement of the ſubſtances that come under this branch of medical Science. But as Mr Murray aſſures us, that he has "adopted that arrangement, which, after mature deliberation, appears preferable to any other,—that of claſſing the different ſubſtances according to their medicinal powers," we ſhall give a general view of this new and advantageous arrangement. "In the ſelection of the articles," (he adds) "I have been careful to exclude ſuch as have been diſcarded from modern practice, and which an undue regard to antiquity has too long retained in publications on Materia Medica.

10. Mr MURRAY's arrangement of medicines, conſiſts of the following XXI claſſes: viz. 1. "Narcotics: 2. Antiſpaſmodics; 3. Tonics: 4. Aſtringents: 5. Emetics: 6. Cathartics: 7. Emmenagogues; 8. Diuretics; 9. Diaphoretics: 10. Expectorants; 11. Sialagogues; 12. Errhines: 13. Epiſpaſtics and Rubefacients; 14. Refrigerants: 15. Antacids: 16. Lithontriptics: 17. Eſcharotics: 18. Anthelmintics; 19 Demulcents: 20. Diluents: 21. Emollients." See theſe articles in their order. But we would adviſe the ſtudent of medicine and pharmacy, for full ſatisfaction on this branch of the ſubject, to conſult Mr Murray's valuable work itſelf, vol. I.

11. The 3d part is devoted to PHARMACY, properly ſo called "The *Pharmacopœia* of the *Edinburgh College*." (ſays Mr Murray) "affording a ſelection of Pharmaceutical preparations, ſuperior, perhaps, to any other, and uſing likewiſe the eſtabliſhed language of chemiſtry and natural hiſtory, has been adopted as the baſis of this part of the work. To a tranſlation of its proceſſes, I have added, under each preparation, its medicinal uſes and doſe, with the theory of the proceſs, where this was requiſite. The correſponding preparations of the *London Pharmacopœia* are likewiſe noticed, as well as a few, which, though not inſerted in either Pharmacopœia, are occaſionally uſed in practice.

12. "As there are ſome peculiarities with regard to the modes of preparing and adminiſtering the gaſes, I have not placed thoſe of them, which may be medicinally employed, under their appropriate claſſes in the the Materia Medica, but have thrown them into an *Appendix*; to which alſo, for a ſimilar reaſon, I have referred the conſideration of ELECTRICITY and GALVANISM, as medical agents. Laſtly, as connected with theſe ſubjects, I have ſubjoined the heads of a lecture, which I have been accuſtomed to deliver on extemporaneous preſcriptions."

Sect. I. General Remarks *on the* Preservation, *and* Composition *of* Medicines.

13. PHARMACY, as above defined, is the art of PRESERVING, PREPARING and COMPOUNDING MEDICINES.

14. "The PRESERVATION of medicines, (ſays Mr Murray,) is its leaſt extenſive part. It includes principally the general rules for collecting plants at certain ſeaſons, or in particular ſtates of maturity, and thoſe by which they are dried and preſerved from the injuries they would ſuſtain by expoſure to light, air and moiſture. It comprehends, in like manner, rules for the collection and preſervation of animal and mineral ſubſtances. For theſe rules, ſee MATERIA MEDICA, *S. B. X.*

15. "That part of Pharmacy," (continues Mr Murray,) "termed the PREPARATION of medicines, includes a variety of important operations. The virtues of thoſe remedies, which are derived from the vegetable kingdom, generally depend on one or other of the proximate principles of each ſubſtance; on its gum, its reſin, eſſential oil or ſome other. Theſe different principles are diſſolved by different agents, by water, alkohol, ether and as they are often, as they exiſt in the crude vegetable, mixed with much inert matter, it is of advantage to extract the active principles by means of its proper ſolvent, and to exhibit them in its pure and concentrated ſtate. Hence have reſulted the various pharmaceutic preparations of *infuſions*, *decoctions*, tinctures, extracts, &c. being all proceſſes by which the active matter of any ſubſtance is ſeparated from the inert matter with which it is naturally mixed, and differing from each other only in the ſolvent employed, or in the form to which the ſolution is reduced.

16. "Sometimes, alſo, the principles of ſubſtances are extracted by other means, as when an unctuous oil is obtained by expreſſion, or eſſential oil by heat. This oil may alſo be combined with water or alkohol, and thus diſtilled waters or ſpirits are formed.

17. "By ſuch proceſſes, we extract only the principle previouſly exiſting in any particular ſubſtance; we form no new remedy, but merely obtain the ſame virtue in a different form. In other words, Pharmacy produces remedies altogether ſimple. These are always the reſult of chemical action; for they are either compounds; produced by the combination of two or more chemical agents; or they are the products of chemical decompoſition. In this manner are obtained the various ſaline and metallic preparations. Theſe preparations are often diſſolved in various fluids, in order that they may be conveniently exhibited; proceſſes analogous to the infuſions or tinctures of vegetable ſubſtances." See CHEMISTRY, *Index*.

18. "COMPOSITION", (ſays our ingenious author) "is the laſt part of PHARMACY. In no chemical combination is effected; but ſeveral medicines are merely mixed together, with the intention of promoting their efficacy, of correcting their operation, of covering their taſte or flavour, or of giving them a commodious form.

19. "From this view of the objects of Pharmacy, it is evident, that it is principally a particular application of CHEMISTRY. Its operations are either directly chemical, or require that the chemical properties of the bodies operated on ſhould be accurately known.

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SECT. II. *Of the* PREPARATION *of* SIMPLE MEDICINES.

10. "*Carbonas calcis præparatus, olim Creta Præparata et Cancrorum Lapilli, vulgo Oculi Cancrorum Præparati.* Prepared carbonat of lime, formerly prepared chalk, and prepared crabs claws, commonly called crab's eyes.—Carbonat of lime, whether the softer variety commonly named chalk, or the harder, called crab's stones and crabs eyes, after being rubbed to powder in an iron mortar, and levigated with a little water on a porphyry stone, is to be put into a large vessel. Water is to be poured upon it, and after the vessel has been frequently agitated, it is to be poured off, loaded with a fine powder. On the water remaining at rest, a subtile powder subsides, which is to be dried. The coarse powder which the water could not suspend, is to be again levigated, and treated in the same manner."

11. "Chalk is a native carbonat of lime, seldom perfectly pure. The crabs stones are concretions found in the stomach of the river craw-fish, (CANCER ASTACUS,) consisting of carbonat of lime, with a portion of animal gelatin. By the above process, both are reduced to a very fine powder, to render them more fit for medicinal use. They are employed as antacids in a dose of one or two drachms." See CHALK.

12. "Red coral (*Coralium Rubrum,*) is ordered to be prepared in a similar manner in the London Pharmacopœia:" but as it has no qualities but those of carbonat of lime, Mr Murray says "there is no necessity for retaining it."

13. "*Carbonas ferri præparatus, olim Rubigo Ferri Præparata.* Prepared carbonat of iron, formerly prepared rust of iron.—"Purified filings of iron are to be frequently moistened with water, till they fall into rust, which is to be rubbed to a fine powder." DURING exposure to air and moisture, iron is oxydated, and this oxyd is found to be combined with carbonic acid, absorbed probably from the atmosphere. As a chalybeate it is more active than the pure metal, and more mild than the other saline combinations of iron. Its dose is from 10 to 20 grains.

14. "*Carbonas zinci impurus præparatus; olim Lapis Calaminaris Præparatus.* Prepared impure carbonat of zinc, formerly prepared calamine stone.—"Impure carbonat of zinc, roasted by those who make brass, is to be prepared in the same manner as carbonat of lime."

15. "Calamine is an ore of zinc, in which sometimes the metal is merely oxydated, and in other varieties combined with carbonic acid. It is used as an application to superficial inflammations dusted on the part, and as the basis of the common healing cerate. For these purposes, it requires to be very finely levigated.

16. "*Ferri limatura purificata.* Purified filings of iron.—"A sieve being placed over the filings, let a magnet be applied, that the filings may be drawn through the sieve upwards."

17. "*Ferri oxidum nigrum purificatum, olim Ferri Squamæ Purificatæ.* Purified black oxyd of iron, formerly purified scales of iron.—"Let the scales of black oxyd of iron, which are found at the anvils of the workman, be purified by the application of the magnet; for the magnet attracts only the more small and pure scales, leaving those which are larger and less pure."

18. "The scales of iron are the small fragments struck off from the metal when it is heated red-hot. Passing through the atmosphere, at this temperature, they are oxydated, but so imperfectly, as to admit of this mode of purification by the magnet. They are used only in making some of the other chalybeate preparations.

19. "*Oxidum zinci impurum præparatum, olim Tutia Præparata.* Prepared impure oxyd of zinc, formerly prepared tutty.—"To be prepared as carbonat of Lime."

20. "*Sulphas aluminæ exsiccatus, olim alumen Ustum.* Dried sulphat of argil, formerly burnt alum.—"Let sulphat of Argil be melted in an earthen or iron vessel, and exposed to the heat applied until it cease to boil."—By this process the alum loses its water of crystallization, and becomes more active as an escharotic, for which purpose this preparation is used.

21. "*Sulphur sublimatum lotum.* Washed sublimed sulphur.—"Take of sublimed sulphur 1 lb.; water 4 lb.; boil the sulphur a little with the water, then pour off this water; by the affusion of cold water wash away all acid; lastly, dry the sulphur."

22. "A small portion of sulphur in its sublimation sometimes suffers oxydation from the air of the chamber in which it is sublimed, and hence acquires a slight acidity, which the present process is designed to remove. This is so rarely the case, however, that it is perhaps unnecessary.

23. "*Sulphur præcipitatum. Pharm. Lond.* Precipitated sulphur. "Take of sulphurated kali (sulphurate of pot-ash), 6 oz.; distilled water, 1½ lb. diluted vitriolic (sulphuric) acid, as much as is sufficient; boil the sulphurated kali in the distilled water until it is dissolved. Filter the liquor through paper, and add to it the diluted vitriolic acid. Wash the precipitated powder by repeated affusions of water until it become insipid."

24. "In this process, sulphur is first combined with potash by fusion; and this compound, dissolved in water, is decomposed by sulphuric acid, which combines with the potash, and precipitates the sulphur. It might be supposed, therefore, to have no advantage. The sulphur, however, from its state of aggregation, is of a much whiter colour than it can be obtained be any other means, and is therefore preferable in forming an ointment for external application.

25. "*Sulphuretum antimonii præparatum, olim antimonium præparatum.* Prepared sulphurat of antimony, formerly prepared antimony.—Let sulphuret of antimony be prepared in the same manner as carbonat of lime." As a remedy in chronic rheumatism it has been given in a dose of 5 or 10 gr. daily.

26. "*Mel depuratum.* Clarified honey—"Liquefy honey by a water bath, and remove the scum."

27. "*Herbarum et florum exsiccatio.* Drying of herbs and flowers.—"Herbs and flowers are to be dried with the gentle heat of a stove, or a common fire, in such a quantity that the drying may be done as quickly as possible; for thus their virtues are best preserved. The mark of this is their retaining completely

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completely their native colour. The leaves of hemlock, and others containing a ſubtile volatile matter, are, immediately after drying, to be rubbed to powder, and kept in glaſs veſſels well ſtopt."

38. "By drying herbs and flowers, or expelling a great part of the water they contain, theſe chemical changes they would ſpontaneouſly ſuffer are prevented, and they are rendered capable of being preſerved. The more quickly they are dried, they retain their virtues more completely." See MATERIA MEDICA, *Sect.* XIV.

39. "*Scilla maritima exſiccata.* Dried ſea ſquill.—"Cut the root of the ſea ſquill, its outer covering having been removed, tranſverſely into thin ſlices, and dry it by a gentle heat. The mark of its being properly dried is, that although rendered friable it retains its bitterneſs and acrimony." By drying, the ſquill loſes four 5ths of its weight, and with very little diminution of its virtues, if too much heat has not been applied. It is in this ſtate that ſquill is commonly employed in medicine. Doſe from 1 to 3 grains.

40. "*Pulparum extractio.* Extraction of pulps.—"Boil thoſe fruits which afford a pulp, if unripe, or if ripe and dry, with a little water, that they may become ſoft. Then expreſs the pulp through a hair ſieve, and boil it with a gentle heat in an earthen veſſel, ſtirring it frequently that it may not burn, until it attain the conſiſtence of honey. The pulp of caſſia fiſtula is to be boiled from the bruiſed pod; and by evaporating the water, to be reduced to the due conſiſtence. The pulps of ripe and freſh fruits are to be preſſed through a ſieve, without previous boiling."—"Theſe directions are given principally for the preparation of the pulps of ſeveral fruits, which enter into the compoſition of the electuary of ſenna. Pulps are ſeldom otherwiſe medicinally employed, and cannot be long preſerved unchanged.

41. "Under the chapter correſponding with this in title in the London Pharmacopœia, are ſeveral additional preparations, of which it may be neceſſary to take notice.

42. "*Ammoniaci purificatio.* Purification of gum ammoniac.—"If ammoniac ſeem not pure, boil it in water, until it ſoften; and by a preſs, force it through an hempen bag; then put it aſide, that the reſinous matter may ſubſide. Evaporate the water, mixing towards the end of the evaporation the reſinous with the gummy part. Aſſafœtida and other ſimilar gum reſins may be purified in the ſame manner. Any gum alſo, which melts eaſily, ſuch as galbanum, may be purified by putting it into an ox-bladder, and keeping it in boiling water, till it become ſo ſoft, that it may be preſſed through a ſtrong linen cloth, and freed from its impurities."

43. "By ſuch proceſſes, the qualities of the ſubſtances are always injured, and they are unneceſſary, ſince theſe gums, when not ſufficiently pure, ought not to be uſed.

44. "*Styracis purificatio.* Purification of ſtorax.—"Having diſſolved ſtorax in alkohol, ſtrain the liquor, and diſtil it with a gentle heat to a proper conſiſtence." This is equally unneceſſary with the preceding.

45. "*Cornu cervi uſtio.* Burning of hartſhorn.—"Burn pieces of hartſhorn till they become perfectly white, then rub them to a very fine powder."—"Animal bones conſiſt of gelatin with phoſphat of lime; by burning, the former is deſtroyed, the latter remains. It was conſidered as an antacid, but it cannot be referred to that claſs. It is ſometimes an ingredient in dentifrice compoſitions.

46. "*Millepedæ præparatæ.* Preparation of millipedes.—"Suſpend them, incloſed in a thin linen bag, over proof-ſpirit, heated in a cloſe veſſel that they may be killed by the vapour, and rendered friable."—"It is ſingular that this abſurd preparation ſhould have been ſo long retained in our Pharmacopœias as it has been.

47. "*Spongiæ uſtio.* Burning of ſponge.—"Burn ſponge cut into ſmall pieces, and, when free from ſtony matter, burn it in a cloſe iron veſſel until it become black and friable. Then reduce into a fine powder."—"Burnt ſponge conſiſts chiefly of carbonaceous matter, with a ſmall proportion of carbonat of ſoda. It has been celebrated as a remedy in ſcrofula, in a doſe of a ſcruple or half a drachm."

Sect. III. Conſervæ.—Conſerves.

48. "In theſe preparations, vegetable matter bruiſed is mixed with about three times its weight of ſugar, and beat into an uniform pulpy maſs. It was ſuppoſed that the ſugar, by its antiſeptic quality, would prevent the decompoſition of the vegetable matter. This, however, is not the caſe. This form of preparation, therefore, is not applied to any active medicine, the few conſerves that are retained being employed merely as vehicles for other medicines, and for giving them a convenient forms.

49. "The conſerves in the Edinburgh Pharmacopœia are the following: 1. *Conſerva Corticis interioris recentis fructûs Citri Aurantii, Radula braſi:* Conſerve of the outer rind of the orange raſped by a grater. 2. *Conſerva Fructûs Roſæ caninæ maturi, a ſeminibus eorumque pube ſollicite segregati:* Conſerve of the fruit of dog-hips carefully freed from the ſeeds and included down. 3. *Conſerva Petalorum Roſæ Gallicæ nondum expliciti:* Conſerve of the unblown petals of the red roſe. In each of theſe, the vegetable ſubſtance is beat into a pulp, adding gradually, during the beating, three times its weight of ſugar.

50. "To theſe the London College add, 1. *Conſerva abſinthii maritimi,* Conſerve of ſea wormwood; 2. *Conſerva lupulæ,* Conſerve of wood hop; 3. *Conſerva ari,* Conſerve of arum; 4. *Conſerva pruni ſylveſtris,* Conſerve of ſloes; 5. *Conſerva ſquillæ,* Conſerve of ſquill;—preparations which ſcarcely require any particular notice. To the firſt the form of conſerve is very ill adapted; and in the laſt, the active matter of the ſquill cannot be preſerved long by this preparation."

Sect. IV. Succi.—Juices.

51. "Vegetable juices are obtained by expreſſion. They conſiſt of various proximate principles of the plant, particularly of mucilage, extractive matter, tanuin, fecula, and ſome ſaline ſubſtances diſſolved or ſuſpended in water, and when recent, may poſſeſs the medicinal virtues which belong to any of theſe principles. It is impoſſible, however,

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however, to preserve vegetable matter in solution in water for any length of time without suffering decomposition; and hence juices are unfit for officinal preparations. Only one is retained in the Edinburgh and London Pharmacopœias, and it might have been discarded.

51. "*Succus cochleariæ officinalis compositus.* Compound juice of scurvy-grass.—"Take of juice of scurvy-grass, juice of water-cresses expressed from fresh-gathered herbs, juice of the fruit of the orange, of each two pounds; spirit of nutmeg half a pound: mix and put aside until the impurities have subsided; then pour off the liquor." Since the powers of the citric acid have been fully ascertained it is very seldom prescribed."

SECT. V. SUCCI SPISSATI, *vulgo* EXTRACTA.—INSPISSATED JUICES, *commonly termed* EXTRACTS.

52. "WHERE the virtues of any vegetable reside in a principle which is contained in the juice separated from it by expression, and where this principle is at the same time not volatile, inspissation by a moderate heat will contribute to its preservation, as the soft mass obtained by this process is much less liable to chemical changes, than when the reaction of constituent parts is favoured by solution with water. The preparation, however, is still liable to disadvantages. By the heat employed in the inspissation, part of its active matter is generally dissipated, and another source of change is derived from the oxygenation which the juice is liable to suffer, when thus heated in contact with the atmospheric air; and the preparation remaining still soft and humid, must gradually undergo chemical alterations. Hence, inspissated juices are generally variable in their medicinal qualities.

53. "The process for these preparations is described in the Edinburgh Pharmacopœia under the head of them,

54. "*Succus inspissatus aconiti napelli.* Inspissated juice of aconite, or wolfsbane.—"The fresh leaves of aconite are to be bruised, and being inclosed in a hempen bag, are to be pressed strongly, that they may give out their juice, which is to be reduced by evaporation in open vessels, heated by a bath of water saturated with muriat of soda, to the consistence of thick honey. The mass, after it is cooled, is to be kept in glazed earthen vessels, and moistened with alkohol."

55. "This inspissated juice is the form under which wolfsbane has been usually administered. It has been given principally in obstinate chronic rheumatism, in a dose of half a grain night and morning, and gradually increased to 5 or 6 grains. In the same manner are prepared the following inspissated juices from the leaves of their respective plants.

56. "*Succus inspissatus atropæ belladonnæ.* Inspissated juice of deadly night-shade.—This has been recommended in scirrhus and some convulsive affections, in a dose of one grain, gradually increased.

57. "*Succus inspissatus conii maculati.* Inspissated juice of hemlock.—Under this form, hemlock was employed by Störck in scirrhus and cancer. The dose given is at first two grains, but it can be largely increased, and has at length been taken to the extent of several drachms in the day.

59. "*Succus inspissatus hyoscyami nigri.* Inspissated juice of black henbane.—This plant, resembling opium in its powers, has been employed frequently as a substitute for it. The dose is one grain, which requires, if continued, to be increased.

60. "*Succus inspissatus lactucæ virosæ.* Inspissated juice of strong-scented lettuce.—This preparation was recommended as a remedy in dropsy by the German practitioners, in a dose of 4 or 5 grains, gradually increased to 1 or 2 drachms in 24 hours. It has been little used in this country.

61. "*Succus inspissatus sambuci nigræ, vulgo Rob Sambuci.* Inspissated juice, or Rob of Elder.—The preparation of this is peculiar. "Five pounds of the juice of elder berries, and one pound of sugar, are to be boiled with a gentle heat to the consistence of thick honey." In the *Lond. Pharm.* it is merely inspissated without sugar.

62. "*Succus inspissatus momordicæ elaterii, vulgo Elaterium.* Inspissated juice of wild cucumber, or Elaterium.—"Cut the ripe fruit of the wild cucumber, and pass through a very fine hair sieve the juice lightly expressed; boil it a little, and set it aside for some hours until the thicker parts subside. Pour off the thinner part which floats above, and separate the rest by straining. The thicker part which remains after the straining, being covered with a linen cloth, is to be dried by a gentle heat."

63. "This is a very violent cathartic. It has been used as a hydragogue in dropsy, and as a cathartic in obstinate constipation, where others have failed. It is not often used.

64. "The additional preparations of this kind in the London Pharmacopœia are *Succus inspissatus ribis nigri*, Inspissated juice of black currant, and *Succus inspissatus lemonis*, Inspissated juice of lemon, which require no particular observation."

SECT. VI. OLEA FIXA.—FIXED OILS.

65. "THE chemical properties of these oils exist unmixed in the fruit and seeds of vegetables, and are obtained by expression, or decoction with water. The former is in general to be preferred; and to afford the oil pure it must be performed without heat, which, though it favours the separation of the oil, communicates to it an unpleasant flavour. To preserve them from becoming rancid, they ought to be kept secluded from the air.

66. "A process in pharmacy somewhat difficult is to mix these oils with any watery fluid, so that they may be conveniently exhibited. It is usually done by mucilage, or an alkali. If triturated with mucilage, and a small quantity of sugar, the oil is diffused through the water, and a milky liquor formed. A combination still more permanent is effected, by adding a few drops of water of ammonia, or 2 or 3 grains of carbonat of potash. The directions for preparing these oils, in the Edinburgh Pharmacopœia, are given under the next article.

67. "*Oleum amygdalæ communis.* Oil of almonds.—"Take of fresh almonds any quantity. Bruise them in a stone mortar, inclose them in a hempen bag, and express the oil by a press without heat." This is the purest of the expressed oils.

68. "In

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68. "In the same manner is to be expressed *Oleum lini usitatissimi*, Oil of lintseed, from the seeds of the plant. Being rather less pure, it is used only as an external application.

69. "To these the London College add *Oleum ricini*, Castor oil, and *Oleum sinapeos*, Oil of mustard. The former is usually prepared, however, in the West Indies by decoction, and is milder than when obtained by expression; and the latter is scarcely applied to any use. The olive oil, which of all the expressed oils is most largely employed, is imported from the South of Europe."

Sect. VII. Emulsiones.—Emulsions.

70. "Emulsions are preparations in which the expressed oil of seeds or kernels is suspended in water by the medium of the mucilage, and perhaps also of the fecula which the seeds contain. They are always opaque and milky: as the oil is merely diffused through the water, it gradually collects and rises to the surface: and owing to the vegetable matter dissolved in the liquor, they are also liable to become sour. They likewise suffer decomposition from vinous spirits or acids.

71. "*Emulsio amygdalæ communis.* Almond emulsion.—"Take of sweet almonds 1 oz.; water 2½ lb.; beat the blanched almonds carefully in a stone mortar, adding the water gradually, then strain." This is used merely as a demulcent in catarrh and gonorrhœa, or during the application of a blister, being drunk *ad libitum*.

72. "*Emulsio gummi mimosæ niloticæ, vulgo Emulsio Arabica.* Arabic emulsion.—"This is made in the same manner, adding, while beating the almonds, 2 oz. of mucilage of gum Arabic." It is used in the same cases as the preceding, and is supposed to have a greater share of demulcent power.

73. "*Emulsio camphorata.* Camphor emulsion. "Take of camphor one scruple; blanched sweet almonds 2 dr.; refined sugar 1 dr.; water 6 oz.: to be made in the same manner as the almond emulsion." Camphor is less apt to induce nausea when given in a liquid than when in a solid form; and this is one of the best forms of preparation. Its dose is two ounces." See Camphor.

Sect. VIII. Infusa.—Infusions.

74. "Infusion is a term employed to denote that operation, in which water, on remaining for some time on vegetable matter dissolves part of it; and also to express the preparation which results from that operation. It is obvious, that infusion, understood in this sense, can be applied with propriety only to those plants whose virtues depend on principles soluble in water. The strength of the infusion is considerably influenced by the temperature of the fluid, hot water dissolving more of the soluble matter than cold, while cold water, from this circumstance, frequently affords a preparation which, if weaker, is more grateful. From dried vegetables, the soluble matter is in general more easily obtained than from those which are recent. Infusions are always extemporaneous preparations, and cannot be preserved in a sound state for more than a few days.

75. "*Infusum cinchonæ officinalis.* Infusion of Peruvian bark.—"Take of powdered Peruvian bark, one ounce; water, 1 lb. Macerate them for 24 hours, and strain."—This preparation is used chiefly in dyspepsia, in a dose of 2 o occasionally.

76. "*Infusum digitalis purpureæ.* Infusion foxglove.—"Take of the dried leaves of fo glove, one drachm; boiling water, 8 ounce spirit of cinnamon, one ounce. Macerate for hours, and strain."

77. "Infusion is the form under which Withering, who introduced the use of digitalis dropsy, recommended it to be given. The d is half an ounce taken twice a-day, and grad ly increased till the effects of the remedy appe

78. "*Infusum gentianæ luteæ compositum, v infusum Amari.* Compound infusion of gen "Take of gentian root, half an ounce; drie range-peel, one drachm; coriander seeds, h drachm; diluted alkohol, 4 ounces; water, First pour on the alkohol, and after 3 hours water; then macerate without heat for 12 ho and strain."—This bitter infusion is emplo in dyspepsia, and is much better adapted to tinued use than the tinctures. Its dose is 2 o casionally.

79. *Infusum mimosæ catechu, vulgo Infusum ponicum.* Infusion of catechu.—"Take of tract of catechu, two drachms and a half; of cinnamon, half a drachm; boiling wat ounces; simple syrup, one ounce. Macerate extract and bark with the water in a closed for two hours, then strain, and add the syr The extract of catechu is completely solub water; and possesses all its virtues unim Cinnamon renders it more grateful. Its pri use is in diarrhœa. Its dose, one ounce eve or 4th hour.

80. "*Infusum rhei palmati.* Infusion of barb.—"Take of the root of rhubarb, h ounce; boiling water, 8 oz.; spirit of cinn 1 oz. Macerate the root with the water closed vessel for 12 hours, then adding the strain the liquor." It is used as a mild cath Dose, two ounces.

81. "*Infusum rosæ gallicæ.* Infusion rose.—"Take of the dried petals of the red 2 oz.; boiling water, 5 lb.; sulphuric acid dr.; refined sugar, 2 oz. Macerate the with the boiling water in an earthen vessel, is not glazed with lead, for 4 hours; then poured on the acid, strain the liquor, and a sugar."—This infusion is used principally moderately astringent gargle, in slight cases nanche.

82. "*Infusum tamarindi indicæ cum cassia* Infusion of tamarind and senna.—"Take prepared fruit of the tamarind, one ounce; leaves, one drachm; coriander seeds, drachm; unrefined sugar, half an ounce; water, eight ounces: Macerate them in a earthen vessel, which is not glazed with shaking frequently, and after four hours stra liquor. It may be made also with double or the quantity of senna."

83. "This combination affords a very pl purgative, mild in its operation. The whole

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ity may be taken at intervals as a dose. If we wish a more powerful cathartic, it must be made with an increased proportion of senna.

84. "In the London Pharmacopœia are two infusions, both of senna. The first, *Infusum sennæ fortius*, (prepared from senna, an ounce and a half; ginger, one drachm; and boiling distilled water, one pint; macerated for an hour, and strained;) is given as a cathartic, in a dose from 2 to 4 oz. The 2d, *Infusum sennæ tartarizatum*, is prepared, from senna, one ounce and a half; coriander seed bruised, half an ounce; crystallized tartrite of potash, two drachms; and boiling water, one pint; the crystals of tartar being dissolved in the water by boiling, and the hot water being poured on the senna and coriander: the maceration being continued for an hour, in a covered vessel, and strained when cold. It is similar to the infusion of senna and tamarinds, rather less pleasant, but having the recommendation of cheapness. From the larger proportion of senna it is also more active. Dose from 2 to 4 oz."

"Under the chapter entitled *Infusa*, in the London Pharmacopœia, are several preparations which cannot properly be ranked as infusions. The first is an example of a mixture.

"*Potio carbonatis calcis, olim potio cretacea.* Chalk potion.—"Take of prepared carbonat of lime one ounce; refined sugar, half an ounce; powder of gum arabic, two ounces. Rub them together, and add gradually of water two pounds and a half; spirit of cinnamon, two ounces." The chalk in this mixture is merely suspended by the mucilage. It is used as an antacid, 1 or 2 oz. to be taken occasionally. With this may be noticed a few mixtures which find a place in the London Pharmacopœia.

"*Mistura camphorata.* Camphorated mixture.—"Take of camphor, one drachm; rectified spirit of wine, a little; refined sugar, half an ounce; distilled water, one pint. Rub the camphor with the spirit, afterwards with the sugar; add the water gradually, and strain the mixture." Given as a stimulant, in the dose of one ounce every 2d or 3d hour, in fever accompanied with delirium.

"*Mistura moschata.* Musk mixture.—Take of musk, two scruples; powdered gum arabic, refined sugar, of each one drachm; rose water, 6 oz. Rub the musk with the sugar, then with the gum, and add the rose water gradually." The dose is one ounce, or an ounce and a half.

"*Lac ammoniaci.* Milk of gum ammoniac.—Take of gum ammoniac, two drachms; distilled water, half a pint: triturate the gum resin with the water poured on gradually, until it become an emulsion." It is given as an expectorant in the dose from half an ounce to an ounce at a time.

"*Lac assafœtidæ.*—This is prepared in the same manner. In hysteria, it is given in a dose of half an ounce or an ounce, frequently repeated during the paroxysm.

"*Mucilago amyli.* Starch mucilage. Phar. Lond.—"Take of starch, half an ounce; water, one pint. Rub the starch, adding gradually the water; then boil them for a short time."

92. "Fecula, of which wheat-starch is a variety, is soluble in boiling water, and forms a gelatinous solution. This starch-mucilage is principally used as a vehicle for giving opium, or other remedies, under the form of enema.

93. "*Mucilago astragali tragacanthæ.* Mucilage of gum tragacanth.—"Take of gum tragacanth beat to powder, one ounce; boiling water 8 oz. Macerate for 24 hours, and rub the gum carefully, that it may be dissolved; then strain it through linen."

94. "*Mucilago mimosæ niloticæ.* Mucilage of gum arabic.—"Take of powdered gum arabic, one part; boiling water, two parts. Digest with frequent agitation until the gum be dissolved; then strain through linen." This is the mucilage that is usually employed for pharmaceutic purposes. It is also used as a demulcent.

95. "*Mucilago seminum cydonii mali. Lond.* Mucilage of quince seed.—"Take of quince seeds, one drachm; distilled water, 8 oz. Boil with a gentle heat for ten minutes, and strain through linen."

96. "*Aqua calcis.* Lime water.—"Take of lime recently prepared, half a pound: put it into an earthen vessel, and sprinkle it with 4 oz. of water, keeping the vessel closed while the lime becomes hot, and falls into powder: then pour on 12 lb. of water, and mix the lime with it by agitation. After the lime has subsided, repeat the agitation; and do so about ten times, keeping the vessel always shut, that the free access of the air may be prevented. Let the water be strained through paper, interposing between the filter and the funnel glass rods, that the water may pass through as quickly as possible. Let it be kept in bottles well stopt."

97. "The caution to exclude the air in this process, arises from the supposition that the lime would combine rapidly with the carbonic acid of the atmosphere. After the solution is strained, it is at least necessary that it should be kept in vessels well stopt. A very small quantity only of lime is dissolved, about two grains to the ounce. The solution has a styptic taste. It is used as a tonic and astringent. Dose from one to two lb. daily."

Sect. IX. Decocta.—Decoctions.

98. "By *Boiling* vegetable substances in water, their active matter is more abundantly dissolved than by simple infusion. The preparation thus obtained is termed a Decoction. In a number of cases, part of the matter dissolved by the assistance of the high temperature separates as the liquor cools, especially where it is of a resinous matter; in others, however, it is retained.

99. "Though a larger portion of matter is dissolved by the water in this mode of preparation, yet it cannot be always advantageously employed. Wherever the virtues of the substance subjected to it depend, in whole or in part, on any volatile principle, they are necessarily injured by this being dissipated. At the temperature of 212°, humid extractive matter combines too with oxygen from the atmospheric air; and perhaps at the same temperature, some vegetable principles suffer decomposition from the re-action of their constituen

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ſtituent parts: hence many vegetables ſuffer injury from boiling, even where this cannot be aſcribed to the diſſipation of their volatile parts. Theſe circumſtances limit conſiderably the application of this form of preparation. Decoctions are always extemporaneous preparations. In general, during the boiling the air ſhould be excluded, and the liquor ought to be ſtrained while hot.

100. "*Decoctum althææ officinalis.* Decoction of althæa.—"Take of dried althæa root, 4 oz.; raiſins freed from ſeeds, 2 oz.; water, 7 lb. Boil to 5 lb.; put aſide the ſtrained liquor till the impurities have ſubſided, and pour off the clear liquor." The gum of vegetables is not injured by decoction. As the virtues of the althæa depend on this principle, they are obtained entire in this preparation. It is uſed as a demulcent, being taken *ad libitum*.

101. "*Decoctum anthemidis nobilis, vulgo decoctum chamæmeli ſive commune.* Decoction of Chamomile, or common decoction.—"Take of the dried flowers of chamomile, one ounce; carraway ſeeds, half an ounce; water, 5 lb. Boil for a quarter of an hour, and ſtrain." This decoction is deſigned to be uſed principally as an enema and fomentation.

102. "Similar preparations are inſerted in the London Pharmacopœia, under the names of *Decoctum pro enemate*, and *Decoctum pro fomento*.

103. "*Decoctum cinchonæ officinalis, vulgo decoctum corticis Peruviani.* Decoction of Peruvian bark.—"Take of Peruvian bark in powder, one ounce; water, one pound and a half. Boil for ten minutes in a covered veſſel, and ſtrain the liquor while hot."

104. "As the active part of Peruvian bark is chiefly reſino-extractive matter, part of it diſſolved by the hot water is depoſited as the liquor cools. Hence the neceſſity of ſtraining it while hot. As the ſame matter ſuffers oxygenation during boiling, the propriety is obvious of continuing the boiling for a ſhort time only, and in a cloſe veſſel. This decoction is given in general when bark in conſiderable doſes is requiſite, and where the powder does not remain on the ſtomach. The doſe is 2 oz. repeated occaſionally.

105. "*Decoctum daphnes mezerei.* Decoction of mezereon.—"Take of the bark of the root of mezereon, two drachms; of liquorice root bruiſed, half an ounce; water, 3 lb. Boil with a gentle heat to 2 lb. and ſtrain." The decoction is given in a doſe of 6 or 8 oz. three or four times a-day.

106. *Decoctum geoffrææ inermis.* Decoction of cabbage-tree bark.—"Take of cabbage-tree bark in powder, one ounce; water, 2 lb. Boil with a gentle heat to one pound, and ſtrain." It is given as an anthelmintic in a doſe of 2 lb. to an adult.

107. "*Decoctum guajaci officinalis compoſitum, vulgo decoctum lignorum.* Compound decoction of guaiac.—"Take of guaiac wood ſhavings, 3 oz.; raiſins, 2 oz.; ſaſſafras root, liquorice root, of each one ounce; water, 10 lb. Boil the water with the guaiac wood and raiſins, on a gentle fire, to 5 lb. adding the roots towards the end of the boiling; then ſtrain without expreſſion." Under this form guaiac wood is adminiſtered as a remedy in cutaneous diſeaſes, and ſometimes in chronic rheumatiſm. It is taken to the extent of 2 or 3 lb. daily.

108. "*Decoctum hordei diſtichi.* Decoction of barley.—"Take of pearl barley, 2 oz.; water, 2 lb. Firſt waſh off with cold water the flour adhering to the barley; then boil the barley for a ſhort time with about half a pound of water, to extract the colouring matter. This being rejected, put the barley thus purified into 5 lb. of boiling water. Boil this to one half, and ſtrain." This decoction is uſed merely as a diluent in febrile affections.

109. "A ſimilar formula, in which figs, raiſins and liquorice, are added to the barley, is inſerted in the London Pharmacopœia, under the title *Decoctum hordei compoſitum*.

110. "*Decoctum polygalæ ſenegæ.* Decoction of ſeneka.—"Take of ſeneka root, one ounce; water, 2 lb. Boil to 16 oz. and ſtrain." This has been uſed as a remedy in chronic rheumatiſm, and ſometimes as an expectorant in pneumonia. Its doſe is 2 or 3 oz. three or four times a-day.

111. "*Decoctum ſmilacis ſarſaparillæ.* Decoction of ſarſaparilla.—"Take of ſarſaparilla ſliced, 6 oz.; water, 8 lb. Digeſt for two hours, in a temperature of about 195°, then take out the root and bruiſe it; put it again into the liquor and boil it with a gentle fire to 2 lb.; then express it, and ſtrain." Under this form ſarſaparilla has been given in the ſecondary ſymptoms of ſyphilis. It has been given alſo in dyſuria.

112. "A few decoctions which have a place in the London Pharmacopœia remain to be noticed.

113. "*Decoctum cornu cervi.* Decoction of hartſhorn.—"Take of burnt and prepared hartſhorn, 2 oz.; gum arabic, ſix drachms; diſtilled water, 3 lb. Boil, ſtirring conſtantly, to 2 lb. and ſtrain." The burnt hartſhorn, conſiſting chiefly of phoſphat of lime, is inſoluble in water. Therefore, the gum arabic only is diſſolved.

114. "*Decoctum hellebori albi.* Decoction of white hellebore.—"Take of white hellebore root in powder, one ounce; diſtilled water, 2 pints; rectified ſpirit of wine, 2 oz. Boil the water with the root to one pint; when the liquor is cold, ſtrain, and add the ſpirit." This is uſed as an external application, in ſome cutaneous diſeaſes, principally in pſora.

115. "*Decoctum ſarſaparillæ compoſitum.* Compound decoction of ſarſaparilla.—"Take of ſarſaparilla root, ſliced and bruiſed, 6 oz.; bark of ſaſſafras root, ſhavings of Guaiac wood, liquorice root bruiſed, of each one ounce; mezereon, diſtilled water, ten pints. Macerate with a gentle heat for 6 hours; boil to 5 pints, adding the mezereon towards the end of the boiling; then ſtrain." This decoction is an improvement of the Liſbon diet-drink, once highly celebrated for removing ſome of the ſecondary ſymptoms of ſyphilis, and promoting the action of mercury. The doſe is 4 or 6 oz. 3 or 4 times a-day. From Ruſſel's experiments, its efficacy appears to depend on the mezereon.

116. "*Decoctum ulmi.* Decoction of elm. "Take of the bark of the Elm, freſh bruiſed, 2 oz.; diſtilled water, four pints. Boil to 2 pints,

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and strain." This decoction has been recommended as a remedy in cutaneous diseases.

SECT. X. SYRUPI.—SYRUPS.

117. "SYRUPS are solutions of sugar in water, either pure, or containing other substances dissolved. They are seldom active medicines; but are principally designed to render others pleasant. The proportion of sugar with which they are usually made is about two parts to one of liquid.

118. "*Syrupus simplex, sive communis.* Simple syrup, or common syrup.—"Take of refined sugar reduced to powder, 15 parts; water, 8 parts. Dissolve the sugar with a gentle heat, and boil a little so as to form a syrup." This solution is used chiefly to communicate sweetness.

119. "*Syrupus acidi acetosi.* Syrup of vinegar. —"Take of acetous acid, 2½ lb.; refined sugar, 3½ lb. Boil so as to form a syrup." This aciduious syrup being sufficiently pleasant, may enter into mixtures in which it cannot occasion any chemical decomposition.

120. "*Syrupus althææ officinalis.* Syrup of althæa. —"Take of fresh althæa root cut, 1 lb.; water, 10 lb.; refined sugar, 4 lb. Boil the water with the root to one half, and expressing it strongly, strain. Put aside the strained liquor that the impurities may subside, and to the purified liquor add the sugar; then boil it so as to form a syrup." The quantity of mucilage this syrup can receive is so trifling, that it cannot be considered as deriving from it any virtue.

121. "*Syrupus amomi zingiberis.* Syrup of ginger.—"Take of the root of ginger, beat, 3 oz.; water, 4 lb.; refined sugar, 7½ lb. Macerate the root in the water, in a close vessel for 24 hours; and, to the strained liquor, add the sugar, so as to make a syrup." The flavour of the ginger renders this syrup sufficiently pleasant.

122. "*Syrupus citri aurantii.* Syrup of orange.—"Take of the fresh outer rind of the orange 2 oz.; boiling water, 3 lb.; refined sugar, 4 lb. Macerate the rind in water for 12 hours; to the strained liquor add the sugar beat to powder, and, by the application of a gentle heat, form a syrup." This syrup, like the former, is used chiefly on account of its grateful aromatic flavour.

123. "*Syrupus citri medicæ, olim syrupus limonum.* Syrup of lemon.—"Take of the juice of lemons strained after the impurities have subsided, 2 lb.; refined sugar, 5 parts; dissolve the sugar with a gentle heat so as to form a syrup." This pleasant syrup is used to sweeten and acidulate mixtures, especially those of the mucilaginous kind.

124. "*Syrupus colchici autumnalis.* Syrup of colchicum.—"Take of the fresh root of colchicum cut into small pieces, 1 oz.; acetous acid, 2 lb.; refined sugar, 26 oz. Macerate the root in the acid for two days, shaking the vessel occasionally; then expressing it gently, strain it; to the strained liquor add the sugar, and boil a little so as to form a syrup." Colchicum has been prescribed under this form as a diuretic in dropsy. The dose of the syrup is half an ounce or six drachms.

125. "*Syrupus dianthi caryophylli.* Syrup of clove July-flower.—"Take of the fresh petals of the clove July-flower freed from the heels, 1 lb.; of boiling water, 4 lb.; of refined sugar, 7 lb. Macerate the petals in the water for 12 hours; then to the strained liquor add the beat sugar; which dissolve with a gentle heat, so as to form a syrup." This syrup is valued principally on account of its deep red colour. Its flavour also is pleasant.

126. "*Syrupus Papaveris somniferi.* Syrup of white poppy.—"Take of the dried capsules of the white poppy, freed from the seeds, 2 lb.; boiling water, 30 lb.; refined sugar, 4 lb. Macerate the sliced capsules in the water for 12 hours; then boil until a third part only of the liquor remain; and pressing it strongly, strain; boil down the strained liquor to one half, and again strain; lastly, the sugar being added, boil a little, so as to form a syrup." The capsules possess the narcotic power, (See PAPAVER, N°. 1.) and the juice is soluble in water, by which it is extracted. The syrup is given as an anodyne to children. The dose to a child a year old is one drachm. The Dublin College have substituted for it a syrup of opium.

127. "*Syrupus rhamni cathartici.* Syrup of buckthorn.—"Take of the clarified juice of ripe buckthorn berries, two parts; refined sugar, one part. Boil so as to form a syrup." This syrup is used as a cathartic; the dose to an adult is 1 oz. or 1½ oz.

128. "*Syrupus rosæ gallicæ.* Syrup of red roses. —"Take of the dried petals of the red rose, 7 oz.; boiling water, 5 lb.; refined sugar, 6 lb. Macerate the petals in water for 12 hours; then boil them a little, and strain; to the strained liquor add the sugar, and again boil, so as to form a syrup."

129. "*Syrupus rosæ centifoliæ.* Syrup of damask or pale rose.—"Take of the fresh petals of the damask rose, 1 lb.; boiling water, 4 lb.; refined sugar, 3 lb. Macerate the petals in water for 12 hours; then to the strained liquor add the sugar, and boil, so as to form a syrup." This syrup is a very mild purgative, and is given to children in a dose of 2 or 3 tea spoonfuls.

130. "*Syrupus scillæ maritimæ.* Syrup of squill. —"Take of the vinegar of squill, 2 lb.; refined sugar, 3½ lb. Dissolve the sugar with a gentle heat, so as to form a syrup. Dose, one or two drachms.

131. "*Syrupus toluiferae balsami, vulgo syrupus balsamicus.* Syrup of Tolu balsam.—"Take of common syrup, 2 lb.; tincture of Tolu balsam, 1 oz. With the syrup newly prepared, and removed from the fire, when it has nearly cooled, mix the tincture gradually with agitation."

132. "This syrup according to the formula of the London College, is prepared by boiling the balsam of Tolu in water, and dissolving the sugar in this liquor. Prepared in either way, it can be valued only on account of its flavour.

133. "*Syrupus violæ odoratæ.* Syrup of violets.—Take of the fresh flowers of the sweet-scented violet, 1 lb.; boiling water, 4 lb.; refined sugar, 7½ lb. Macerate the flowers in water for 24

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hours in a covered glaſs or earthen veſſel. Then ſtrain, without expreſſion, and to the ſtrained liquor, add the beat ſugar, ſo as to form a ſyrup." This ſyrup is a very gentle laxative, and as ſuch is given to infants in a doſe of one or two teaſpoonfuls.

134. "The following ſyrups have not a place in the Edinburgh Pharmacopœia.

135. "*Syrupus ſucci fructûs mori.* Syrup of mulberry juice.

136. "*Syrupus ſucci fructûs rubi idaei.* Syrup of raſberry juice.

137. "*Syrupus ſucci fructûs ribis nigri.* Syrup of black-currant juice.—The ſyrups prepared from theſe fruits, inſerted in the London Pharmacopœia, are pleaſant and acidulous. Some of them, however, are ſuperfluous.

138. "*Syrupus croci.* Syrup of ſaffron, *Pharm. Lond.* is admitted on account of its colour, as is alſo the *Syrupus papaveris erratici.* Syrup of red poppy.

139. "MEDICATED HONEYS differ in little or nothing from ſyrups, and are therefore rejected from the Edinburgh Pharmacopœia. In the London and Dublin Pharmacopœias, are retained, *Mel acetatum. Oxymel colchici. Mel roſae. Mel ſcillae. Oxymel ſcillae;* which, as the correſponding ſyrups have been noticed, it would be ſuperfluous to give at length.

Sect. XI. Vina.—Wines.

140. "WINE, from its compoſition, and eſpecially from the alkohol and water it contains, is capable of diſſolving the active matter of many vegetables. Solutions of this kind are named *Medicated Wines.* They are more liable to decompoſition from keeping than tinctures. To obviate this, it is uſual to add to them, when prepared, a portion of alkohol.

141. "*Vinum aloes ſocotorinae, vulgo tinctura ſacra.* Wine of ſocotorine aloes. Sacred Tincture.—"Take of ſocotorine aloes, reduced to powder, one oz.; leſſer cardamom ſeeds, ginger root, of each, beat, one dr.; Spaniſh white-wine, 2 lb. Digeſt for 7 days, ſhaking frequently, and ſtrain." This is a ſtimulating cathartic, producing its full effect in the doſe of one oz. In a doſe of 1 or 2 dr. it is given to excite the action of the inteſtines and neighbouring organs.

142. "*Vinum gentianae compoſitum, vulgo vinum Amarum.* Compound gentian wine.—"Take of gentian root, half an oz.; Peruvian bark, 1 oz. orange peel dried, 2 dr.; canella bark, 1 dr.; diluted alkohol, 4 oz.; Spaniſh white-wine, 2½ lb. On the root and barks bruiſed, pour firſt the diluted alkohol; and after 24 hours, add the wine. Then macerate for 7 days, and ſtrain." Its doſe is ſix drachms.

143. "*Vinum ipecacuanhae.* Ipecacuan wine.—"Take of ipecacuan root bruiſed, one ounce; Spaniſh white-wine, 15 oz. Macerate 7 days, and ſtrain through paper. Doſe as an emetic, one ounce to an adult.

144. "*Vinum nicotianae tabaci.* Tobacco wine.—"Take of the leaves of tobacco, 1 oz.; Spaniſh white-wine, 1 lb. Macerate for 7 days, and ſtrain through paper." Under this form, tobacco has been uſed as a diuretic in dropſy. Doſe, 30 drops, gradually increaſed to 60 or 80 twice a-day.

145. "*Vinum rhei palmati.* Rhubarb wine.—"Take of the root of rhubarb, cut, 2 oz.; canella bark, 1 dr.; diluted alkohol, 2 oz.; Spaniſh white-wine, 15 oz. Macerate 7 days, and ſtrain through paper." The doſe as a purgative is from half an ounce to an ounce. The tincture of rhubarb is in general to be preferred.

Sect. XII. Aceta.—Vinegars.

146. "VINEGAR is capable of diſſolving ſeveral of the principles of vegetables. It frequently, however, alters their powers, or does not concur with them in virtue. There are, therefore, few medicated vinegars in uſe.

147. "*Acetum aromaticum.* Aromatic vinegar.—"Take of the dried tops of roſemary; the dried leaves of ſage, of each 4 oz.; dried lavender flowers, 2 oz.; cloves, 2 dr.; diſtilled acetous acid, 8 lb. Macerate 7 days, and ſtrain the expreſſed liquor through paper." This is chiefly uſed as a perfume.

148. "*Acidum acetoſum camphoratum.* Camphorated acetous acid.—"Take of the ſtrongeſt acetous acid, 6 oz.; camphor, half an ounce; alkohol, as much as is neceſſary. Rub the camphor with the alkohol into a powder, which put into the acid, that it may be diſſolved." The preparation, ſnuffed up the noſtrils, is a powerful and grateful ſtimulant, to obviate nauſea, or relieve languor.

149. "*Acetum ſcillae maritimae.* Vinegar of ſquill.—"Take of ſquill root dried, 2 oz.; diſtilled acetous acid, 2½ lb.; alkohol, 3 oz. Macerate the ſquill with the acetous acid for 7 days; expreſs the acid; add the alkohol; and when the impurities have ſubſided, pour off the liquor."

150. "Vinegar is the proper menſtruum of ſquill; and this preparation poſſeſſes all its powers, unimpaired. It is ſeldom given under this form as a diuretic, but generally as an expectorant. The doſe is from one to two drachms.

Sect. XIII. Tinctura.—Tinctures.

151. "TINCTURES are ſolutions of vegetable, animal, and ſometimes of mineral ſubſtances, in ſpiritous liquors. The ſolvent may be either pure alkohol, diluted alkohol, or alkohol impregnated with ammonia or ether. They generally contain the virtues of the ſubſtances diſſolved, in a concentrated ſtate, though ſometimes altered, or loſt in thoſe of the menſtruum. They are little liable to decompoſition, and this gives them a ſuperiority over thoſe preparations in which the ſolvent power of water is employed.

152. "Alkohol is the ſolvent of a number of the immediate principles of vegetables; of reſin, camphor, eſſential oil, and extract; and hence is capable of extracting the virtues of many important remedies. Tinctures made with it are in general decompoſed on the addition of watery liquors.

153. "Diluted alkohol, or PROOF-SPIRIT, is ſtill more general ſolvent; as the water it contains diſſolves ſeveral principles which are not ſoluble in

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pure alkohol. It is therefore more generally employed.

154. "Alkohol, impregnated with ammonia or ether, is employed in forming tinctures only of a few substances, whose operations are supposed to be promoted by these agents.

155. "*Tinctura aloes socotorinæ.* Tincture of aloes.—"Take of socotorine aloes in powder, half an ounce; extract of liquorice, 1½ oz.; alkohol, 4 oz.; water, 1 lb. Digest for 7 days with a gentle heat in a closed vessel, shaking the vessel frequently; directions which, with regard to all tinctures, are to be observed."

156. "This is the only tincture in which the proportion of water is superior to that of alkohol. Dose as a cathartic is one ounce.

157. "*Tinctura aloes ætherea.* Ethereal tincture of aloes.—"Take of myrrh, socotorine aloes, each 1½ oz.; English saffron, 1 oz.; spirit of sulphuric ether, 1 lb. Digest the myrrh with the ether for 4 days in a closed phial; then add the saffron and aloes. Digest again for 4 days; and when the impurities have subsided, pour off the tincture."

158. "This is a stimulating purgative, in a dose of one or two drachms.

159. "*Tinctura aloes cum myrrha.* Tincture of aloes and myrrh.—"Take of myrrh powdered, 4 oz.; alkohol, 1½ lb.; water, half a pound. Mix the alkohol with the water; then add the myrrh; digest for 4 days; and lastly, add of socotorine aloes, 4 oz.; English saffron, 1 oz. Digest again for 4 days, and pour off the pure tincture." This is used principally externally, as an application to foul ulcerating wounds, and a stimulant to foul ul-

160. "*Tinctura amomi repentis.* Tincture of cardamom.—"Take of cardamom seeds, 4 oz.; diluted alkohol, 2½ lb. Digest for two days, and strain through paper." This tincture is used for its delicate aromatic flavour and pungency.

161. A compound tincture of cardamom, in which caraway, cinnamon, and raisins, are introduced, is likewise inserted in the London Pharmacopœia, and is used for the same purpose.

162. "*Tinctura aristolochiæ serpentariæ.* Tincture of Virginian snake-root.—"Take of Virginian snake-root two ounces; cochineal, one drachm; diluted alkohol, two pounds and a half. Digest for 7 days, and strain through paper."

"Serpentaria is seldom exhibited under the form of tincture. As a grateful bitter, it may be occasionally in dyspepsia in a dose of two

163. "*Tinctura assafœtidæ.* Tincture of assafœtida.—"Take of assafœtida, 4 oz.; alkohol, 1 lb. Digest for 7 days, and strain through

[illegible] dose of

164. "*Tinctura benzoini compositi.* Compound tincture of benzoin.—"Take of benzoin, 4 oz.; storax, 2 oz.; balsam of Tolu, 1 oz.; alkohol, 1 lb. Digest for 7 days, and strain through paper."

165. "*Tinctura camphoræ.* Tincture of camphor.—"Take of camphor, 4 oz.; alkohol, 1 lb. Digest for 7 days, and strain through paper."

166. "*Tinctura camphoræ; vulgo spiritus vinosus camphoratus.* Tincture of camphor.—"Take of camphor, one ounce; alkohol, 1 lb. Mix, so as to dissolve the camphor. It may be also made with a double or triple proportion of Camphor." This solution is used externally as a stimulant and anodyne application in chronic rheumatism, bruises and strains. It is applied by friction to the part.

167. "*Linimentum camphoræ compositum.* Lond.—"Take of camphor two ounces; water of ammonia, 6 oz.; spirit of lavender, 16 oz. Mix the water of ammonia with the spirit, and distil 16 oz. from a glass retort with a gentle heat. Dissolve the camphor in the distilled liquor." This liniment is applied to the same uses as the preceding. From the addition of the ammonia it is more powerful as a stimulant.

168. "*Tinctura cassiæ sennæ composita, olim elixir salutis.* Tincture of senna.—"Take of the leaves of senna, 2 oz.; root of Jalap, one oz.; coriander seeds, half an ounce; diluted alkohol, 3½ lb. Digest for 7 days, and to the tincture strained through paper, add 4 oz. of refined sugar." This tincture is in very common use as a purgative. Its dose is one ounce, or 1½ oz.

169. "*Tinctura castorei.* Tincture of Castor.—"Take of Russian castor, one ounce and a half; alkohol, one pound. Digest for 7 days, and strain through paper."

170. "In the London, and likewise in the Dublin Pharmacopœia, this tincture is ordered to be prepared with diluted alkohol; but with pure alkohol it is more grateful. It is a feeble remedy, given sometimes as an antispasmodic, in a dose of from half a drachm to a drachm.

171. "*Tinctura castorei composita.* Compound tincture of castor.—"Take of Russian castor, one ounce; assafœtida, half an ounce; ammoniated alkohol, one lb. Digest for 7 days, and strain through paper." This tincture is more active than the former; it is given in a similar dose.

172. "*Tinctura cinchonæ officinalis.* Tincture of Peruvian bark.—"Take of Peruvian bark in powder, 4 oz.; diluted alkohol, 2½ lb. Digest for 7 days, and strain through paper." This is used in dyspepsia, occasionally, in a dose of two drachms.

173. "*Tinctura cinchonæ, vulgo Corticis Peruviani, composita.* Compound tincture of Peruvian bark. Lond.—"Take of Peruvian bark in powder, 2 oz.; dried orange peel, 1½ oz.; Virginian snake-root, 3 dr.; saffron, 1 dr.; cochineal in powder, two scruples; proof-spirit, 20 oz. Digest for 14 days, and strain." This has been long known under the name of *Huxham's Tincture of Bark.* It is more grateful than the simple [illegible], and is used like it in dyspeptic affections, in the dose of 2 or 3 drachms.

174. "*Tinctura cinchonæ, vulgo [illegible] composita.* Lond. Ammoniated [illegible]—"Take of Peruvian bark [illegible] and spirit of ammonia, [illegible] digest for 10 days, and [illegible]

175. "*Tinctura columbæ.* [illegible] Take of the root of [illegible] diluted alkohol, [illegible]

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and ſtrain through paper." This is uſed merely as a bitter tincture in dyſpepſia, in a doſe of 3 or 4 drachms.

176. "*Tinctura convolvuli jalapæ.* Tincture of jalap.—"Take of the root of jalap in powder, 3 oz.; diluted alkohol, 15 oz. Digeſt for 7 days, and ſtrain through paper." The tincture may be given as a cathartic, in a doſe of 4 or 6 drachms.

177. "*Tinctura croci.* Tincture of ſaffron.—"Take of Engliſh ſaffron, 1 oz.; diluted alkohol, 15 oz. Digeſt for 7 days, and ſtrain through paper."

178. "*Tinctura digitalis purpureæ.* Tincture of foxglove.—"Take of the dried leaves of foxglove, one ounce; diluted alkohol, 8 oz. Digeſt for 7 days, and ſtrain through paper."

179. "*Tinctura gentianæ compoſita, vulgo Elixir Stomachicum.* Compound tincture of gentian.—"Take of gentian root, 2 oz.; dried orange peel, 1 oz.; canella bark, half an ounce; cochineal, half a drachm; diluted alkohol, 2½ lb. Digeſt for 7 days, and ſtrain through paper." This tincture is employed in dyſpepſia, in a doſe of 2 or 3 dr. given occaſionally.

180. "*Tinctura guajaci.* Tincture of guaiac.—"Take of the reſin of guaiac, 1 lb.; alkohol, 2½ lb. Digeſt for 7 days, and ſtrain through paper." This tincture is given in a doſe of 2 or 3 dr.

181. "*Tinctura guajaci ammoniata.* Ammoniated tincture of guaiac.—"Take of the reſin of guaiac, 4 oz.; ammoniated alkohol, 1½ lb. Digeſt for 7 days, and ſtrain through paper." It is given in chronic rheumatiſm, in a doſe from 1 to 2 dr.

182. "*Tinctura hellebori nigri.* Tincture of black hellebore.—"Take of black hellebore root, 4 oz.; cochineal, half a drachm; diluted alkohol, two pounds and a half. Digeſt for 7 days, and ſtrain through paper." This tincture has been uſed as an emmenagogue, in a doſe of one drachm.

183. "*Tinctura hyoſciami nigri.* Tincture of black henbane.—"Take of the dried leaves of black henbane, one ounce; diluted alkohol, eight ounces. Digeſt for 7 days, and ſtrain through paper."

184. "*Tinctura kino.* Tincture of kino.—"Take of kino, two ounces; diluted alkohol, one pound and a half." The doſe is from half a drachm to a drachm.

185. "*Tinctura lauri cinnamomi.* Tincture of cinnamon.—"Take of cinnamon bark, three ounces; diluted alkohol, two pounds and a half. Digeſt for 7 days, and ſtrain through paper."

186. "*Tinctura lauri cinnamomi compoſita, olim Tinctura aromatica.* Compound tincture of cinnamon.—"Take of the bark of cinnamon, cardamom ſeeds, of each one ounce; long pepper, two drachms; diluted alkohol, two pounds and a half. Digeſt for 7 days, and ſtrain through paper."

187. "*Tinctura meloes veſicatorii, vulgo Tinctura cantharidum.* Tincture of cantharides.—"Take of cantharides, one drachm; diluted alkohol, one pound. Digeſt for 7 days, and ſtrain through paper." This tincture is uſed principally externally as a rubefacient; as an internal remedy, the doſe in which it has been given is drops.

188. "*Tinctura mimoſae catechu; olim tinctura japonica.* Tincture of catechu.—"Take of catechu, three ounces; bark of cinnamon, two ounces; diluted alkohol, two pounds and a half. Digeſt for 7 days, and ſtrain through paper." This ſolution is given in a doſe of one drachm.

189. "*Tinctura myrrhae.* Tincture of myrrh.—"Take of myrrh in powder, three ounces; alkohol, twenty ounces; water, ten ounces. Digeſt for ten days, and ſtrain through paper." This tincture is uſed principally as an external fluid lant and antiſeptic application.

190. "*Tinctura opii, ſive thebaica; vulgo Laudanum liquidum.* Tincture of opium.—"Take of opium, two ounces; diluted alkohol, two pounds. Digeſt for 7 days, and ſtrain through paper." This tincture is the uſual form under which opium is adminiſtered. The uſual doſe is two or five drops.

191. "*Tinctura opii ammoniata; olim elixir paregoricum.* Ammoniated tincture of opium.—"Take of benzoic acid, Engliſh ſaffron, of each three drachms; opium, two drachms; volatile oil of aniſe, half a drachm; ammoniated alkohol, ſixteen ounces. Digeſt for 7 days in a ſtrong heat, and ſtrain through paper." Its doſe is from a drachm to a drachm, in catarrhal affections.

192. "*Tinctura opii camphorata.* Lond.—"Take of hard purified opium reduced to powder, benzoin powders of benzoin, of each one drachm; camphor, two ſcruples; oil of aniſe, one drachm; proof ſpirit, two pounds by meaſure. Digeſt for ſeven days, and ſtrain." This tincture is known by the preceding one, by the name of *Paregoric elixir.* Its doſe is 2 or 3 dr.

193. "*Tinctura rhei palmati.* Tincture of rhubarb.—"Take of the root of rhubarb, three ounces; leſſer cardamom ſeeds, half an ounce; diluted alkohol, two pounds and a half. Digeſt for 7 days, and ſtrain through paper." This tincture contains all the virtues of rhubarb. Its dose is from half an ounce to an ounce.

194. "*Tinctura rhei cum aloe; olim elixir ex rheum.* Tincture of rhubarb with aloes.—"Take of the root of rhubarb, ten drachms; ſocotorine aloes, ſix drachms; leſſer cardamom ſeeds, half an ounce; diluted alkohol, two pounds and a half. Digeſt for 7 days, and ſtrain through paper." This is frequently employed as a mild laxative cathartic, in a doſe of ſix drachms, or half an ounce.

195. "*Tinctura rhei cum gentiana; olim Tinctura rhei amara.* Tincture of rhubarb with gentian.—"Take of root of rhubarb, two ounces; gentian root, half an ounce; diluted alkohol, two pounds and a half. Digeſt for 7 days, and ſtrain through paper." The doſe is from a to 4 drachms; chiefly uſed in dyſpeptic caſes.

196. "*Tinctura rhei compoſita.* Lond. "Take of pound tincture of rhubarb.—"Take of rhubarb cut, two ounces; liquorice bruiſed, half an ounce; ginger in powder, ſaffron, of each two drachms; diſtilled water, one pound; proof ſpirit, twelve ounces. Digeſt for 14 days, and ſtrain."

197. "*Tinctura ſaponis, vulgo linimentum ſaponaceum*

...rum. Tincture of soap.—"Take of soap, four ounces; camphor, two ounces; volatile oil of rosemary, half an ounce; alkohol, two pounds. Digest the soap in the alkohol for 3 days; then add the camphor and oil to the strained liquor, agitating it." This is a powerful stimulant used in an external application in strains and rheumatic pains.

198. "*Tinctura saponis cum opio; olim, linimentum anodynum.* Tincture of soap with opium.—"This is made in the same manner, and from the same ingredients, as the tincture of soap; only adding at first one ounce of opium." It is used for the same purposes as the preceding tincture, but is a more powerful anodyne.

199. "*Tinctura tolutiferae balsami; olim tinctura balsamica.* Tincture of tolu balsam.—"Take balsam of Tolu, one ounce and a half; alkohol, one pound. Digest until the balsam is dissolved, and strain through paper." This tincture is scarcely used but on account of its flavour, and for flavouring the syrup of Tolu.

200. "*Tinctura veratri albi.* Tincture of white hellebore.—"Take of white hellebore root, eight ounces; diluted alkohol, two pounds and a half. Digest for 7 days, and strain through paper." The dose of this tincture cannot exceed a few drops; but it is so violent, it is seldom or never given internally.

201. "The following are the tinctures peculiar to the *London Pharmacopœia*. In each of which the pound is by measure, or is equivalent to it.

202. "*Tinctura aurantii corticis.* Tincture of orange peel.—"Take of fresh orange peel, three ounces; proof-spirit, two pounds. Digest for 3 days, and strain."

203. "*Tinctura balsami Peruviani.* Tincture of Peruvian balsam.—"Take of Peruvian balsam, two ounces; rectified spirit of wine, one pound. Digest until the balsam is dissolved."

204. "*Tinctura cascarillae.* Tincture of cascarilla.—"Take of cascarilla in powder, four ounces; proof-spirit, two pounds. Digest with a gentle heat for 8 days, and strain." It is seldom used.

205. "*Tinctura galbani.* Tincture of Galbanum.—"Take of galbanum cut into small pieces, two ounces; proof-spirit, two pounds. Digest with a gentle heat for 8 days, and strain." Tincture of galbanum has been used in hysteria, flatulence and asthma, in a dose of from one to three drachms.

206. "*Tinctura sabinae composita.* Compound tincture of savin.—"Take of extract of savin, one ounce; tincture of castor, one pound; tincture of myrrh, half a pound. Digest until the extract of savin is dissolved, and strain." This tincture has been recommended as an emmenagogue, in the dose of half a drachm twice a-day.

207. "*Tinctura scillae.* Tincture of squill.—"Take of squill recently dried, four ounces; proof-spirit, two pounds. Digest for 8 days, and strain off the liquor." Vinegar is generally used for the menstruum. This tincture may be given in the dose of from 20 to 60 drops.

208. "*Tinctura valerianae.* Tincture of valerian.—"Take of wild valerian in coarse powder, four ounces; proof-spirit, two pounds. Digest with a gentle heat for 8 days, and strain."

209. *Tinctura valerianae ammoniata.* Ammoniated tincture of valerian.—"Take of wild valerian in coarse powder, four ounces; compound spirit of ammonia, two pounds. Digest for 8 days, and strain." Of these two tinctures, the latter is the more powerful, and is a remedy often employed in hysteric affections. Its dose is from one to two drachms.

210. "*Tinctura zingiberis.* Tincture of ginger.—"Take of ginger in powder, two ounces; proof-spirit, two pounds. Digest with a gentle heat for 8 days, and strain." This tincture may be used as an aromatic in combination with other remedies.

SECT. XIV. EXTRACTA.—EXTRACTS.

211. An EXTRACT is the concrete tenacious mass obtained by evaporation of the solvent, when vegetable matter is dissolved in water or alkohol. When prepared from an aqueous solution, it is named a *watery*, when from one in alkohol pure or diluted, a *spiritous extract*. The former must consist chiefly of those proximate principles which water can easily dissolve; mucilage, tannin, extractive, and saline matter: the latter of a portion of these with resin. In either preparation, the volatile principles must necessarily be dissipated; and in many cases, especially in the preparation of the watery extracts, decomposition or oxygenation of the more fixed parts take place. Hence there are few vegetables whose virtues are obtained uninjured in their extracts.

I. EXTRACTA PER AQUAM. EXTRACTS BY WATER.

212. The directions for preparing these are given in the Edinburgh Pharmacopœia, under the Extract of Gentian.

213. *Extractum Gentianae luteae.* Extract of Gentian.—"Take of gentian root, any quantity. Having cut and bruised it, add 8 times its weight of distilled water. Boil to one half, and strain, expressing the liquor strongly. Reduce it immediately to the consistence of thick honey, by evaporation in a bath of boiling water, saturated with muriat of soda." It is intensely bitter. In the same manner are prepared the following extracts:

214. *Extractum Radicis glycyrrhizae Glabrae.* Extract of liquorice root.—It consists chiefly of mucilage and saccharine matter, and is used in catarrh. When the common extract is purified by solution in water, straining and evaporation, it is named *refined liquorice*.

215. *Extractum Radicis hellebori nigri.* Extract of black hellebore root.—The spiritous extract of this root is extremely violent in its operation. The aqueous which is received in the Edinburgh Pharmacopœia is comparatively mild. Its dose is from 10 to 20 grains.

216. *Extractum foliorum rutae graveolentis.* Extract of rue.—As the virtues of rue reside chiefly, if not entirely, in its essential oil, this extract received in both Pharmacopœias must be regarded as an injudicious preparation.

217. *Extractum Foliorum cassiae sennae.* Extract of senna.—Senna has its activity much impaired by

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by decoction. The extract, therefore, cannot be regarded as a proper preparation of it.

218. *Extractum florum anthemidis nobilis.* Extract of chamomile.—The unpleasant flavour of chamomile is entirely dissipated by decoction. The extract is a pure bitter.

219. "*Extractum capitum papaveris somniferi.* Extract of poppy. This extract from the capsule retains its narcotic quality, but its strength is not uniform.

220. "*Extractum ligni hæmatoxyli campechiensis.* Extract of logwood.—In this extract, the astringency is obtained entire. The dose is from 10 to 20 grains.

221. "The watery extracts in the London Pharmacopœia are the same with those in the Edinburgh, with the addition of extract of Broom, of savin, and of Peruvian bark.

222. "*Extractum cacuminis genistæ.* Extract of broom tops.—An infusion of broom tops has been used as a diuretic; but the extract can scarcely be considered as possessing any power.

223. "*Extractum sabinæ.* Extract of savin.—This is liable to the same objection as the extract of rue; that its virtues residing in its essential oil must be dissipated in the process.

224. "*Extractum cinchonæ, vulgo Corticis Peruviani.* Extract of Peruvian bark.—"Take of Peruvian bark, in coarse powder, 1 lb.; distilled water, 12 lb. Boil for an hour or two, and pour off the liquor, which, while hot, will be red and pellucid; but as it cools, becomes yellow and turpid. Pour on again the same quantity of water; boil as formerly; and repeat the boiling, until the liquor, when cold, remains limpid. Then reduce all these liquors, mixed together and strained, to a proper consistence, by evaporation.

225. "This extract ought to be prepared under two forms; one *soft*, fit to form pills; the other *hard*, so that it may be reduced to powder." The active matter of bark is resinous, which boiling water dissolves, but operates a chemical change, by which change its effect is diminished. Its medium dose is 10 grains. See Peruvian Bark.

II. Extracta per Aquam et Alkohol. Extracts by Water and Alkohol.

226. "*Extractum cinchonæ officinalis.* Extract of Peruvian bark.—"Take Peruvian bark in powder 1 lb.; alkohol, 4 lb. Digest for 4 days, and pour off the tincture. Boil the residuum in 5 lb. of distilled water for 15 min. and strain the decoction while hot through linen. Repeat this boiling, and straining with an equal quantity of distilled water, and reduce the liquor by evaporation to the consistence of thin honey. Draw off the alkohol from the tincture by distillation, until it is reduced to a similar consistence. Then mix the liquors thus inspissated, and reduce to a proper consistence by a bath of boiling water, saturated with muriat of soda."

227. "This preparation is undoubtedly preferable to the watery extract of bark. The dose is 10 grains.

228. "*Extractum radicis convolvuli jalapæ.* Extract of jalap.—This is ordered to be prepared in the same manner as the extract of bark. It is a cathartic capable of operating fully in a dose of 10 or 12 grains.

229. "Besides these two, there are some other spiritous extracts in the London Pharmacopœia.

230. "*Extractum cascarillæ.* Extract of cascarilla.—It may be regarded as bitter and tonic. Its dose is one scruple or half a drachm.

231. "*Extractum colocynthidis compositum.* Compound extract of colocynth.—"Take the pith of colocynth cut small, 6 drachms; socotorine aloes in powder, 1½ oz.; scammony in powder, half an ounce; lesser cardamom seeds freed from their husks, powdered, one drachm; proof spirit, 1 lb. Digest the colocynth in the spirit with a gentle heat for 4 days. To the expressed tincture add the aloes and scammony. These being dissolved, draw off the spirit by distillation; then evaporate the water, adding the seeds towards the end of the evaporation. Make an extract by forming pills."

232. "This composition, formerly known by the name of *cathartic extract*, is a cathartic of much power, sometimes employed in obstinate constipation. Its dose is from 5 to 20 grains.

233. "*Opium purificatum.* Purified opium. "Take of opium cut into small pieces, 1 lb.; proof-spirit, 12 lb. Digest with a gentle heat, agitating frequently until the opium is dissolved. Strain the tincture through paper, and distil thus prepared to a proper consistence. Purified opium ought to be kept under two forms; so as to be fit to form pills; and hard, so as to be capable of being reduced to powder."

234. "A process similar to this had a place in the Edinburgh Pharmacopœia, but has properly been expunged.

Sect. XV. Aquæ Stillatitiæ. Distilled Waters.

235. "In most instances the water drawn from vegetable substances, is impregnated with their flavour and taste. This is owing to the essential oil being volatilized at the temperature which water boils, and being dissolved in small proportion by the water condensed. It is therefore seldom that any important virtue of vegetables resides in that principle, and hence the distilled waters are more used as vehicles of other remedies, than as being themselves active medicines. It is evident that it is only those vegetables which contain a sensible quantity of essential oil, that can be subjected with advantage to this process, and that any quality residing in the other principles of the vegetable will not be obtained in the distilled water. To preserve the distilled waters from decomposition, to which they are liable, from the small quantity of vegetable matter they contain, a proportion of alkohol about one fiftieth of their weight, may be added to them; and they require to be kept secluded from the air.

236. "*Aqua destillata.* Distilled water.—"Distil water in clean vessels until about two thirds have come over." By distillation a perfectly pure water is obtained, which is not found in nature.

237. "*Aqua corticis citri aurantii.* Water of orange peel.—"Take of orange peel, 2 lb.

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of these as much water, that when 10 lb. shall have been drawn off by distillation, a quantity shall remain sufficient to prevent empyreuma. After due maceration distil 10 lb."

238. "In the same manner are prepared the following; which require no particular observations, since they possess merely the odour, and some of them the taste and pungency of the vegetables from which they are prepared: 10 lb. of water are to be drawn by distillation from the quantities annexed to each:

239. "*Aqua corticis fructûs citri medicae recens.* Fresh lemon peel, 2 lb.

240. "*Aqua corticis lauri cassiae.* Bark of Cassia, 1 lb.

241. "*Aqua corticis lauri cinnamomi.* Bark of cinnamon, 1 lb.

242. "*Aqua menthae piperitae florentis.* Fresh peppermint, 3 lb.

243. "*Aqua menthae pulegii florentis.* Fresh pennyroyal, 3 lb.

244. "*Aqua fructûs myrti pimentae.* Pimento, 1 pound.

245. "*Aqua petalorum rosae centifoliae recentium.* Fresh petals of the rose, 6 lb.

246. "In the London Pharmacopœia are likewise inserted,

247. "*Aqua anethi.* Dill-seed water.

248. "*Aqua foeniculi.* Fennel-seed water.

249. "*Aqua menthae sativae.* Spearmint water.

XVI. "SPIRITUS STILLATITII. DISTILLED SPIRITS.

250. "THE distillation of pure alkohol or dilute alkohol from vegetable substances gives these. Alkohol in its pure state seldom receives any sensible impregnation; because, although it is capable of dissolving the essential oils of plants, there are very few of them which it can bring over in distillation; a higher temperature being necessary to volatilize them than the alkohol. But by employing diluted alkohol, a liquor is obtained highly odorous and pungent. When heated with a vegetable, the alkohol first distils over, and retards the water with the essential oil, and the whole, when condensed, forms a transparent liquor. These distilled spirits, like the distilled waters, are in general mere agreeable vehicles for the exhibition of other medicines, or grateful stimulants, sometimes used to relieve nausea or flatulence. The directions for preparing them are given, in the Pharmacopœia, under the spirit of each."

251. "*Spiritus cari carvi.* Spirit of caraway. Take of caraway seeds, half a pound. Pour on them diluted alkohol, 9 lb. Macerate during two days in a close vessel; then add a sufficient quantity of water to prevent empyreuma, and draw off 9 lb. by distillation.

252. "In the same manner are prepared the following spirits, 9 lb. being drawn from the ingredients affixed to each:

253. "*Spiritus corticis lauri cinnamomi.* Bark of cinnamon, 1 lb.

254. "*Spiritus menthae piperitae florentis.* Herb peppermint, 1½ lb.

255. "*Spiritus nucis myristicae moschatae.* Nutmeg, 2 oz.

256. "*Spiritus fructûs myrti pimentae.* Fruit of pimento, half a pound.

257. "To these may be added from the London Pharmacopœia,

258. "*Spiritus menthae sativae.* Spirit of spearmint.

259. "*Spiritus pulegii.* Spirit of pennyroyal.

260. "Of compound spirits, the following have a place in the Pharmacopœias:

261. "*Spiritus juniperi communis compositus.* Compound spirit of juniper. *Pharm. Ed.*

262. "Take of juniper berries bruised, one pound; caraway seeds, fennel seeds, of each one ounce and a half; diluted alkohol, nine pounds. Macerate for two days; and, adding as much water as is sufficient to prevent empyreuma, draw off nine pounds by distillation." This has been used as a carminative and diuretic.

263. "*Spiritus anisi compositus.* Compound spirit of anise. *Pharm. Lond.*—"Take of anise seeds, angelica seeds, of each bruised half a pound; proof-spirit, one gallon; water as much as is sufficient to prevent empyreuma. Distil one gallon." It is used also as a carminative.

264. "*Spiritus raphani compositus.* Spirit of horse-radish. *Pharm. Lond.*—"Take of horse-raddish root, dried orange peel, of each 2 lb.; fresh garden scurvy-grass, 4 lb.; nutmegs bruised, 1 oz.; proof-spirit, two gallons; water, as much as is sufficient to prevent empyreuma. Distil two gallons." This was at one time recommended as an antiscorbutic. It has justly fallen into disuse.

265. "There remain, lastly, those distilled spirits prepared with pure alkohol.

266. "*Spiritus lavendulae spicae.* Spirit of lavender.—"Take of fresh lavender flowers, 2 lb. alkohol, 8 lb. Draw off 7 lb. by distillation in a water-bath."

267. "*Spiritus lavendulae spicae compositus.* Compound spirit of lavender.—"Take of spirit of lavender, 3 lb.; spirit of rosemary, 1 lb.; cinnamon bark, 1 oz.; cloves, 2 dr.; nutmeg, half an ounce; red saunders wood, 3 dr.: macerate 7 days and strain." The dose is 30 or 40 drops.

268. "*Spiritus rorismarini officinalis.* Spirit of rosemary.—"Take of fresh rosemary tops, 2 lb. alkohol, 8 lb. Draw off 7 lb. by distillation in a water-bath."

269. "*Alkohol.* There is no process in the Edinburgh Pharmacopœia for the preparation of alkohol. The following is given by the London College:—"Take of rectified spirit of wine, one gallon; prepared kali (sub-carbonat of potash) hot, one pound and a half; pure kali (potash), one ounce. Mix the vinous spirit with the pure kali, and then add one pound of the prepared kali, while hot. Agitate and digest for 24 hours. Pour off the spirit; add to it the remainder of the prepared kali, and distil from a water bath. Preserve the alkohol in a vessel well stopt. The prepared kali ought to be heated to 300°. The specific gravity of alkohol is to that of distilled water as 815 to 1000."

270. "The rectified spirit of wine, employed in this process, is prepared by distillation from the

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spiritous liquors of commerce. It consists of alkohol with a portion of water. The potash employed in the present process abstracts the greater part of this water, by the strong attraction it exerts to it; and, by a careful distillation, the alkohol is obtained, if not entirely, at least nearly pure."

271. "The specific gravity required in the alkohol, employed in the processes of the Edinburgh Pharmacopœia, is 835; and though at that standard, it must contain a portion of water, it is sufficiently strong for all pharmaceutical purposes."

Sect. XVII. Olea volatilia. *olim* Olea Stillatitia *vel* Essentialia. Volatile Oils, Distilled *or* Essential Oils.

272. "Essential oils differ somewhat in their sensible qualities, but all of them are highly odorous and pungent; and, as medicines, they possess a stimulating power. They are generally employed as corrigents, to improve the flavour and taste of the medicines with which they are mixed, to obviate any unpleasant symptoms they may be apt to produce. As these oils frequently exist in distinct vesicles in the vegetable, some of them may be obtained by expression; but, in general, they are procured by distillation. The rules given in the Edinburgh Pharmacopœia are the following:

273. "These oils are to be prepared in the same manner as the distilled waters, except that a smaller quantity of water is to be added. Seeds and roots are to be previously bruised or rasped. The oil accompanies the water, and is afterwards separated from it, according as it is lighter or heavier, by swimming on the surface or falling to the bottom. With regard to the preparation of these distilled waters and oils, from the goodness of the substances, their texture, the season of the year, and similar circumstances, so many differences arise, that it is scarcely possible to give any certain and general rules which shall apply strictly to every example. Many things therefore are omitted, to be regulated according to the judgment of the operator, the most general precepts only being delivered."

274. "The qualities of these oils are considerably varied by a number of circumstances, more especially by climate, soil, and season. They are likewise injured by too long keeping. Being high priced, they are also frequently adulterated by dilution with alkohol, by the addition of an expressed oil, or by intermixture with each other, the cheaper being used to adulterate the more valuable. The first is detected by the rankiness produced and continuing for some time, on dropping the adulterated oil on water; the second, by the sophisticated oil leaving a permanent greasy spot on paper; and the third may, in general, be discovered by the smell of the coarser oil, rendering it more ardent if necessary, by the application of a gentle heat.

275. "It is not necessary to notice particularly the different essential oils, as they possess merely the aromatic quality of the vegetables from which they are prepared. The following are those inserted in the Edinburgh Pharmacopœia:

276. "*Oleum herbae menthae, piperitae florent*i Oil of peppermint.

277. "*Oleum herbae juniperi sabinae.* Oil of savin

278. "*Oleum summitatum florentium rorismari officinalis.* Oil of rosemary.

279. "*Oleum spicarum florentium lavendul spicae.* Oil of lavender.

280. "*Oleum seminum pimpinellae anisi.* Oil anise.

281. "*Oleum baccarum juniperi communis.* of juniper.

282. "*Oleum radicis lauri sassafras.* Oil of sassafras.

283. "*Oleum fructus myrti pimentae.* Oil of mento.

284. "The London College have also ord*Oleum essentiale carui.* Oil of carraway.

285. "*Oleum menthae sativae.* Oil of spea

286. "*Oleum origani.* Oil of wild thyme

287. "*Oleum pulegii.* Oil of pennyroyal.

288. "*Oleum succini et acidum succini.* Oil acid of amber.—"Take of amber in po pure sand, equal parts. Put them mixed glass retort, of which they shall fill one-half. ving adapted a large receiver, distil from a bath, with a fire gradually raised. First, tery liquor with a little of a yellow oil, w til; then a yellow oil with an acid salt; wards, a reddish and black oil. Pour the out of the receiver, and let the oil be sep from the water. Let the acid salt, collected the neck of the retort, and the sides of the er, be pressed between folds of bibulous and freed from the adhering oil. Then pu by solution in hot water and crystallizatio

289. "Amber is a bitumen which suffe composition by heat. The acid which it is one *sui generis*; the oil approaches in it perties to the other empyreumatic oils. T is never used in medicine; the oil is sometim ployed externally as a stimulant, and inter an antispasmodic, but is also falling into A process is ordered in the Pharmacopœia purification.

290. "*Oleum succini purissimum.* Purified amber,—"Distil oil of amber mixed with fi its quantity of water, from a glass retort. two thirds of the water have passed into t ceiver. Then separate this purified volati from the water, and keep it in vessels well st The oil thus purified, is at first nearly colou but gradually acquires a brown tinge. Its o is extremely unpleasant, its taste acrid. Its as an antispasmodic is ten drops.

291. "*Oleum terebinthinae volatile purifi* Rectified oil of turpentine.—"Take of w oil of turpentine, 1 lb.; water, 4 lb. distil a as any oil comes over." This process seem necessary, as distilled oil of turpentine is in ge pure enough.

292. "Two other empyreumatic oils are i ed in the London Pharmacopœia.

293. "*Oleum animale.* Animal oil.—"Ta oil of hartshorn, 1 lb. Distil three times." Th is formed by the decomposition of bones by It was once celebrated for its antispasmodic er, but has long been little used.

294. "*Oleum petrolei.* Oil of petroleum, or

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neral tar.—"Diſtil petroleum in a ſand-bath." This has been uſed principally as an external ſtimulating application.

ECT. XVIII. OLEOSA.—OILY PREPARATIONS.

ugr. "*Oleum ammoniatum, vulgo Linimentum* Ammoniated oil, commonly called volatile liniment.—"Take of olive oil, 2 oz.; water of ammonia, two drachms. Mix them."

ugh." A much ſtronger preparation is ordered in the London Pharmacopœia. *Linimentum ammoniacæ fortius*, conſiſting of water of pure ammonia, one ounce; olive oil, 2 oz. Another is inſerted under the title *Linimentum ammoniatæ*, compoſed of water of ammonia, (or rather carbonat of ammonia) half an ounce; olive oil, an ounce and a half. These, both from the nature and proportion of the ingredients, is milder. They are all uſed as rubefacients; and, for this purpoſe, the liniment of the Edinburgh College ſeems beſt adapted.

"*Oleum lini tum calce.* Linſeed oil with lime."—"Take of linſeed oil, lime water, of each equal parts. Mix them." This is uſed as an application to burns.

"*Oleum camphoratum.* Camphorated oil.—"Take of olive oil, 2 oz.; camphor, half an ounce. Mix them, ſo as that the camphor may be diſſolved." This is a form under which camphor is frequently applied externally as a ſtimulant anodyne.

"*Oleum ſulphuratum.* Sulphurated oil.—"Take of olive oil, 8 oz.; ſublimed ſulphur, 1 oz. Boil with a gentle fire, in a large iron pot, ſtirring conſtantly until they unite." This ſolution of ſulphur in oil was once recommended as an expectorant, in a doſe of twenty or thirty drops, and was uſed in aſthma and phthiſis, but is now altogether diſcarded from practice.

"In the London Pharmacopœia, there is ordered to be prepared in the ſame manner, a ſolution of oil in petroleum, PETROLEUM SULPHURATUM. Its qualities are the ſame.

XIX. SALES *et* SALINA.—SALTS *and* SALINE SUBSTANCES.

"To give a preciſe definition of the term *Salt* is difficult. It was formerly ſuppoſed to denote bodies eminently ſapid, ſoluble in water, cryſtalliſable, fuſible, and uninflammable. But theſe properties are not poſſeſſed by many bodies ſuppoſed to belong to the claſs of ſalts, and they belong to others which are arranged under other heads of chemical agents.

"The definition of ſalts, in the language of the chemiſtry, ſeems rather to be taken from their compoſition, than from their properties. It is underſtood to be applied to the ſubſtances known by the name of *acids*, to thoſe entitled *alkalies*, and to all the compounds formed by the combinations of *acids* with *alkalies*, earths, and metallic oxyds. The acids and alkalies are termed primary, the other Secondary or neutral ſalts." For the general chemical qualities of the acids, alkalies, and neutral ſalts, and there new nomenclature, ſee CHEMISTRY, *Index*. The firſt ſaline preparations in the Pharmacopœia are thoſe of the acids.

"*Acidum aceteſum deſtillatum.* Diſtilled acetous acid.—"Diſtil 8 lb. of acetous acid in glaſs veſſels, with a gentle fire. The two pounds that firſt come over are to be rejected as too watery; the 4 lb. which follow are the diſtilled acetous acid. The reſiduum affords a ſtill ſtronger acid, but too much burnt."

304. "Vinegar, as it is produced by fermentation, conſiſts of acetous acid, largely diluted with water, and mixed with a number of other ſubſtances,—tartarous acid, extractive, mucilaginous, and ſaccharine matter. From theſe it is purified by diſtillation, but it is ſtill largely diluted with water, as the pure acid is not even ſo volatile as water; and, in general, it receives from the diſtillation ſomewhat of an empyreumatic odour. The proceſs ſhould be conducted in glaſs veſſels, as directed in the Pharmacopœia; as, from metallic ones, the acid would receive an impregnation that might prove noxious. Diſtilled acetous acid is chiefly employed as a ſolvent of ſome vegetable ſubſtances, and in making ſome of the ſalts."

305. "*Acidum aceteſum fortè.* Strong acetous acid.—"Take of dried ſulphat of iron, one pound; acetite of lead, 10 oz. Rub them together. Put them into a retort, and diſtil from ſand with a moderate fire, as long as any acid comes over."

306. "*Acidum aceteſum.* Acetous acid. Pharm. Lond.—"Take of verdigriſe, in coarſe powder, two pounds. Dry it perfectly in a bath of water, ſaturated with ſea ſalt. Then diſtil in a ſand-bath, and diſtil the liquor a ſecond time. Its ſpecific gravity is, to that of diſtilled water, as 1050 to 1000."

307. "Theſe two proceſſes furniſh a powerful acid; but the reſult of chemical reſearches on this ſubject is ſuch, that it is uncertain whether theſe two concentrated acids differ eſſentially from each other, and whether they differ except in ſtrength from the diluted acetous acid.

308. "In the firſt proceſs, that of the Edinburgh Pharmacopœia, the ſulphuric acid of the dried ſulphat of iron combines with the oxyd of lead of the acetite of lead, and diſengages the acetous acid, which, with a portion of water of cryſtallization, diſtils over. Its odour is pungent, its taſte acrid, and its acid powers conſiderable. It ſeems moſt probable that it is merely the concentrated acetous acid.

309. "In the 2d proceſs, the acid contained in the verdigriſe is expelled by the action of the heat from the oxyd of copper, with which in that ſubſtance it is combined. But it has been generally ſuppoſed, that at the ſame time it ſuffers a chemical change. According to a former opinion, it receives a portion of oxygen from the oxyd of copper. The experiments of Chaptal appeared afterwards to prove, that it was rather deprived of a portion of its carbon, which remained mixed or united with the oxyd of copper; while Adet, and ſtill more lately Darracq, have concluded from experiments, that no difference exiſts between thoſe acids but in ſtrength, the acetous acid being more diluted than the other, and, according to Darracq, containing a portion of mucilaginous and extractive matter. The *concentrated acid from verdigriſe* is the *acetic acid* of the new nomenclature, the *radical vinegar* of the older chemiſts.

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310. "These ſtrong acids are principally uſed as powerful ſtimulants, applied to the noſtrils in languor and aſphyxia. Their odour is pungent and grateful. They are capable alſo of acting as powerful rubefacients.

311. "*Acidum benzoicum.* Bezoic acid.—"Take of benzoin in powder, any quantity. Put it into an earthen pot, to the mouth of which there has been previouſly adapted a paper cone; apply a gentle fire, that the acid may be ſublimed. If it be contaminated with oil, let it be purified by ſolution in hot water, and cryſtallization." (Or, according to the direction of the London College, its purification may be effected by mixing it with white clay, and again ſubliming it.) This acid exiſts ready formed in benzoin, and all the balſams, and, as it is volatile, is eaſily ſublimed by heat.

312. Another proceſs, ſuppoſed to be more economical, by M. Scheele, is as follows, in the *Pruſſian Pharmacopœia*:—"Take of powdered benzoin, 24 oz.; carbonat of ſoda, 8 oz. Mix them, and boil in 16 lb. of water, ſtirring conſtantly for half an hour. Strain. To the remaining benzoin add 6 lb. of water. Boil them together, and ſtrain. Mix both liquors, and evaporate to 2 lb. Filter the liquor, and add to it diluted ſulphuric acid to ſaturation. The benzoic acid, precipitated under the form of a light greyiſh powder, is to be diſſolved in boiling water; and the ſolution ſtrained, while hot, through linen, is to be ſet aſide to cryſtallize. The cryſtals are to be waſhed with cold water and dried."

313. "Benzoic acid has been ſuppoſed to poſſeſs ſome expectorant power, and, on this ſuppoſition, enters into the compoſition of the paregoric elixirs of the Pharmacopœias.

314. "*Acidum muriaticum.* Muriatic acid.—"Take of muriat of ſoda, 2 lb.; ſulphuric acid, 16 oz.; water, 1 lb.; firſt expoſe the muriat of ſoda in a pot to a red heat for a ſhort time; when cold, put it into a retort. Then pour the acid, mixed with the water, and cold, on the muriat of ſoda. Diſtil from a ſand-bath with a moderate fire, as long as any acid comes over. Its ſpecific gravity is to that of diſtilled water as 1170 to 1000."

315. "This proceſs is an example of ſingle affinity. The ſulphuric acid combines with the ſoda of the muriat of ſoda, and the muriatic acid is diſengaged. It combines with the watery vapour, and is thus eaſily condenſed. It has generally a yellowiſh tinge, from the preſence of a ſmall quantity of iron, from which it can be freed by a ſecond diſtillation. The principal uſe of this acid is for pharmaceutical purpoſes. It can ſcarcely be ſaid to be employed as a medicine.

316. "*Acidum oxy-muriaticum.* Oxy-muriatic acid.—"Though no proceſs is inſerted in any Pharmacopœia for the preparation of this acid, it is applied, both in its pure ſtate and in its combinations, to medicinal uſes. Uncombined it has been employed to deſtroy contagion, and is perhaps the moſt effectual of any of the agents that have been uſed for this purpoſe." (See OXY-MURIATIC ACID.) The vapours are diffuſed through the place where the contagion is to be deſtroyed.

317. "Combined with potaſh, it forms a ſalt employed as an anti-venereal remedy. To prepare this ſalt, 16 oz. of ſub-carbonat of potaſ are diſſolved in 4 lb. of water, and the ſolution i repeatedly agitated with 8 oz. of lime, to abſtra the carbonic acid. The ſolution of pure pota is to be poured into the bottles of Woulfe's app ratus, connected with a retort, containing 3 lb. muriat of ſoda, 1 lb. of black oxyd of manganeſ and 2 lb. of ſulphuric acid, previouſly diluted wi one pound and a half of water. On applying moderate heat to the retort by a ſand-bath, t oxy-muriatic acid is diſengaged, and paſſes throu the ſolution of potaſh. Inſtead of combining rectly, however, with the potaſh, it ſuffers deco poſition: one part of it returns to the ſtat muriatic acid, the other becomes, what is prop ly ſpeaking, a ſuper-oxygenated acid. Both rate themſelves with potaſh; and the two ſa ſeparated, from their different degrees of ſo ty: the common muriat remains diſſolved, ſuper-oxygenated muriat cryſtallizes. The tals are waſhed with a ſmall quantity of cold ter. They are in ſmall plates of a ſilvery colour." This method of preparing the oxy riat of potaſh is ſomewhat different from that ſcribed by Dr Thomſon. See OXY-MURIAT 3. "This ſalt is given in ſyphilis in a doſe grains three or four times a-day.

318. "*Acidum nitroſum.* Nitrous acid.—" of pure nitrat of potaſh, beat to powder, ſulphuric acid, 16 oz. The nitrat of potaſh put into a glaſs retort, pour upon it the ſulph acid, and diſtil from a ſand-bath with a fire dually raiſed, until the iron is of an obſcure heat. The ſpecific gravity of this acid is to of diſtilled water as 1550 to 1000."

319. "In this proceſs the ſulphuric acid bines with the potaſh, and diſengages the acid. The latter acid, however, partly fro heat employed in the diſtillation, and partly haps from the exertion of a diſpoſing affini fers a ſlight decompoſition; a ſmall portio loſes part of its oxygen, and a quantity of gas is formed; this is abſorbed by the nitro and forms the nitrous, which is more or le loured and fuming, according to the degr heat employed in the diſtillation. The reſi is ſulphat of potaſh, with an exceſs of ſulp acid.

320. "Nitrous acid is extenſively employe a pharmaceutic agent: from the facility with w it parts with oxygen, it is one of the moſt im tant. In the ſtate of vapour, it has been emp ed under the form of fumigation to deſtroy co gion; and has this advantage that it can b plied without requiring the removal of the fo

321. "*Acidum nitroſum dilutum.* Diluted ni acid.—"Take of nitrous acid, water, equal we Mix, avoiding the noxious vapour."

322. "*Acidum nitricum.* Nitric acid.—" of nitrous acid, any quantity. Put it into tort, and a receiver being adapted, apply a gentle heat until the reddeſt part ſhall have pa over, and the acid which remains in the re ſhall have become nitric." By the heat, th trous gas is the nitrous acid, which gives it yellow colour, and the fuming quality is expel and condenſes in the receiver, with a little a

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The nitric acid remains colourleſs. Their medicinal powers are equal.

323. "*Spiritus æetheris nitroſi.* Spirit of nitrous ether.—" Take of alkohol, 3 lb.; nitrous acid, 1 lb. Pour the alkohol into a large phial, placed in a veſſel full of cold water, and add the acid gradually, with conſtant agitation. Cloſe the phial tightly, and ſet it aſide for 7 days in a cool place; then diſtil the liquor with the heat of boiling water, into a receiver kept cool with water or ſnow, as long as any ſpirit comes over."

324. "This anſwers perhaps all the purpoſes which could be derived from pure nitrous ether, which is very dangerous in the preparation.

325. "The theory of the action of acids on alkohol, and of the formation of ethers, is, notwithſtanding modern reſearches, obſcure; and that of nitrous ether is very imperfectly elucidated. It is certained, however, that during its production, portions of oxalic and acetous acids are formed; and the experiments of Bayen have clearly proved, that a very conſiderable portion of the nitric acid is decompoſed or combined in ſuch a manner with the principles of the alkohol, that it is no longer capable of ſaturating an alkali. Perhaps it may be inferred, that the acid, by parting with oxygen to the elements of the alkohol, cauſes the formation of the oxalic and acetous acids, and that the remaining elements of the alkohol unite to form the ether. It appears to contain more carbon than nitric ether.

326. "The ſpirit of nitrous ether contains a portion of acid, from which it may be freed by a ſecond diſtillation, with magneſia or potaſh. It is light, acidulous, very volatile and inflammable, ſoluble in alkohol and water. It is employed as a ſtimulant and diuretic, ſometimes as an antiſpaſmodic. Its doſe is from 30 to 50 drops.

327. "*Acidum ſulphuricum dilutum.* Diluted ſulphuric acid, or diluted vitriolic acid.—" Take of ſulphuric acid, one part; water, 7 parts (in the London Pharmacopœia 8 parts). Mix them."

Sulphuric acid is obtained by burning ſulphur mixed with from one eighth to one tenth of nitrat of potaſh, in large leaden chambers. By the oxygenation of the ſulphur, the acid is formed, and abſorbed by water placed in the bottom of the chamber. This liquor, when ſufficiently acidulous, is concentrated by boiling in glaſs retorts, and the acid obtained thick and unctuous in its appearance, colourleſs and tranſparent, having a ſpecific gravity of 1850.

328. "Sulphuric acid thus prepared is never perfectly pure. It contains a quantity of ſulphat of potaſh, and ſometimes a ſmall portion of ſulphat of lead. From theſe it is in a great meaſure freed by dilution with water, the diluted acid being incapable of holding them diſſolved. Its uſe is alſo more manageable than that of the concentrated acid. As an aſtringent it is taken to the extent of 30 drops.

329. "*Acidum ſulphuricum aromaticum.* Aromatic ſulphuric acid.—" Take of alkohol, 2 lb.; ſulphuric acid, 6 oz. Drop the acid gradually into the alkohol. Digeſt the mixture with a very little heat in a cloſe veſſel for three days, then add of bark of cinnamon, one ounce and a half, of ginger, one ounce. Digeſt again in a cloſe veſſel for ſix days; then ſtrain through paper placed in a glaſs funnel." Doze 30 drops.

330. "*Æther ſulphuricus.* Sulphuric ether, formerly vitriolic æther.—" Take of ſulphuric acid, alkohol, of each 32 oz. Pour the alkohol into a glaſs retort, capable of bearing a ſudden heat. Then pour on the acid in an uninterrupted ſtream. Mix them gradually by frequent and gentle agitation; then immediately diſtil from a ſand-bath, previouſly heated for this purpoſe, into a receiver kept cool with water or ſnow. But regulate the heat in ſuch a manner that the liquor may be made to boil as ſoon as poſſible, and continue to boil until 16 oz. have diſtilled over; then remove the retort from the ſand. To the diſtilled liquor add two drachms of potaſh, then diſtil again from a high-necked retort, with a very gentle heat, into a receiver kept cool, until 10 oz. have paſſed over. If to the acid remaining in the retort after the firſt diſtillation, 16 oz. of alkohol be added, and the diſtillation repeated, ether will again be produced. And this may be often repeated."

331. "In the formation of ſulphuric ether, it is found by experiment that the alkohol ſuffers decompoſition; a portion of its carbon is ſeparated in a ſenſible form, and renders the reſiduaſ liquor thick and dark coloured; a quantity of water is formed, and the remaining elements of the alkohol unite to form the ether. Ether differs from alkohol in containing leſs carbon, or rather more hydrogen; and this difference is eſtabliſhed, not only by the facts with regard to its formation, but likewiſe by the comparative products of their combuſtion.

332. "With regard to the agency of the ſulphuric acid, by which theſe changes are effected in the compoſition of the alkohol, two opinions are at preſent maintained by chemiſts. According to the older doctrine, part of the ſulphuric acid is decompoſed; its oxygen combines with a portion of the hydrogen of the alkohol, and forms water; the balance of attractions among the elements of the alkohol being broken, carbon is depoſited, and ether formed from a new combination of theſe remaining elements.

333. "FOURCROY and Vauquelin have denied that any decompoſition of the acid is neceſſary for the formation of ether. They ſuppoſe that it acts ſolely by a diſpoſing affinity cauſing part of the oxygen and part of the hydrogen of the alkohol to enter into a binary combination to form water; whence reſults the exertion of new affinities, by which carbon is ſeparated, and ether formed. The experiments from which this latter opinion has been deduced, are not unexceptionable; and the facts, that no acid which does not part with oxygen can form ether, while acids, which part with that principle readily, form it with facility, favour the ſuppoſition that the ſulphuric acid occaſions the formation of ether, by yielding part of its oxygen to the hydrogen of the alkohol.

334. "The principle, in conducting this proceſs, is to ſtop it at the proper period; that is, when the formation of ether ceaſes, and ſulphurous acid begins to be diſengaged. This is beſt known by the neck of the retort being obſcured with white fumes: when theſe appear, the fire muſt be immediately lowered or removed, as other.

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herwise the liquor in the retort would swell up and pass over into the receiver. The ether obtained by the first distillation is impure. It is diluted with water and alkohol, and impregnated generally with sulphurous acid. It is rectified by distilling it a 2d time with a very gentle heat, with the addition of potash, which attracts the sulphurous acid; or, what succeeds better, with the addition of black oxyd of manganese, which converts that acid into sulphuric.

335. "Ether, properly prepared, has a penetrating diffusive odour, and a very pungent taste. It is highly volatile, evaporating rapidly at the common temperature of the atmosphere. It is soluble in ten parts of water, and combines with alkohol in every proportion. It is narcotic and antispasmodic. Its dose is half a drachm.

336. "*Æther sulphuricus cum alcohole.* Sulphuric ether with alkohol, formerly named spirit of vitriolic æther.—The London college order a compound spirit of vitriolic æther to be prepared by mixing 2 lb. of unrectified ether with 3 drachms of oil of wine. "Take of sulphuric ether, one part; alkohol, two parts. Mix them."

337. "*Æther sulphuricus cum alcohole aromaticus.* Aromatic sulphuric ether with alkohol.—This is made from the same materials, and in the same manner as the compound tincture of cinnamon, unless that sulphuric ether with alkohol is used in place of diluted alkohol.

338. "*Carbonas ammoniae: olim ammonia praeparata.* Carbonat of ammonia.—"Take of muriat of ammonia, 1 lb. carbonat of lime, commonly called chalk, dried 2 lb. Each being separately reduced to powder, mix them and sublime from a retort into a receiver kept cold."

339. This is an example of double elective attraction. The muriatic acid of the muriat of ammonia combines with the lime of the carbonat of lime; and the carbonic acid of the latter unites with the ammonia of the former. The carbonat of ammonia which is formed is sublimed and obtained in a crystalline cake. It is used as a stimulant to the nostrils in fainting, and as a stimulant and diaphoretic, taken internally in a dose of from 5 to 15 grains.

340. "*Aqua carbonatis ammoniae; olim aqua ammoniae.* Water of carbonat of ammonia.—"Take of muriat of ammonia, carbonat of potash, of each 16 oz.; water, 2 lb. To the salts, mixed and put into a glass retort, add the water; then distil from a sand-bath with a fire gradually raised, to dryness."

341. "*Liquor volatilis, sal, et oleum cornu cervi.* Volatile liquor, salt, and oil of hartshorn. *Pharm. Lond.*—"Take of hartshorn, 10 lb. Distil, increasing the fire gradually. A volatile liquor, salt, and oil, come over. The oil and the salt being separated, distil the liquor three times. To the salt add an equal weight of prepared chalk, and sublime three times, or until it become white. The same volatile liquor, salt, and oil, may be obtained from any of the parts of animals except fat."

342. "Though this at one time was supposed to be possessed of some peculiar virtues, it is now justly rejected from practice; and the carbonat of ammonia, obtained pure by the preceding processes, is preferred.

343. "*Aqua ammoniae: olim aqua ammoniae causticae.* Water of ammonia.—"Take of muriat of ammonia, 16 oz.; lime, fresh prepared, 2 lb. water, 6 lb. To one pound of water in an iron or earthen vessel, add the lime broken down, and close the vessel for 24 hours, until the lime fall to a fine powder, which put into a retort. To this add the muriat of ammonia, dissolved in 5 lb of water, and, shutting the mouth of the retort mix them by agitation. Lastly, distil with a fire so moderate, that the operator can easily apply his hand to the retort, into a receiver kept cold until 20 oz. have distilled over. In this distillation the vessels are to be so luted as to confine effectually the penetrating vapours."

344. "The solution has a strong pungent smell, a very acrimonious taste, and inflames the skin. It is used in medicine as a powerful stimulant, diaphoretic; internally, in a dose of 20 drops; externally, as a stimulant and rubefacient."

345. "*Alcohol ammoniatum, sive spiritus ammoniae.* Ammoniated alkohol.—"Take of dilute alkohol, 4 lb.; muriat of ammonia, 4 oz.; carbonat of potash, 6 oz. Mix, and draw off by distillation with a gentle fire, 2 lb." This has the pungent ammoniacal smell. It is used principally as the menstruum of some vegetables, with which ammonia coincides in medicinal operation.

346. "*Alcohol ammoniatum aromaticum, spiritus ammoniae aromaticus.* Aromatic ammoniated alkohol.—"Take of spirit of ammonia, 8 oz. volatile oil of rosemary, one drachm and a half volatile oil of lemon, 1 dr. Mix so as to dissolve the oils." In the London Pharmacopœia, oil of cloves is ordered in place of oil of rosemary. The dose is 15 to 30 drops.

347. "*Alcohol ammoniatum foetidum, sive spiritus ammoniae foetidus.* Foetid ammoniated alkohol.—"Take of spirit of ammonia, 8 oz. assafœtida gum-resin, half an ounce. Let them digest in close vessel for 12 hours; then distil 8 oz. by heat of a water-bath." In hysteria the dose is drops.

348. "*Spiritus ammoniae succinatus.* Pharm. Lond. Succinated spirit of ammonia.—"Take alkohol, one ounce; water of pure ammonia oz.; rectified oil of amber, one scruple; soap 10 gr. Digest the soap and the oil of amber in the alkohol, until they are dissolved. Then add the water of pure ammonia, and mix by agitation." This is an imperfect formula for the preparation of *Eau de Luce.*

349. "*Carbonas potassae.* Carbonat of potash.—"Let impure carbonat of potash, (which in Russia is named *pearl-ashes,*) be put into a crucible and brought to a red heat, that the oily impurities, if any are present, may be burnt out; then by rubbing it with an equal weight of water, and them thoroughly by agitation. The liquor, after the impurities have subsided, being poured into a clean iron pot, is to be boiled to dryness stirring the salt constantly towards the end of boiling, that it may not adhere to the vessel."

350. "The PEARL-ASHES of commerce are obtained by the incineration of the wood of land vegetables. They consist of sub-carbonat of potash with sulphat and muriat of potash, siliceous earth and metallic matter from which they are purified

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fied by this process. The salt is a sub-carbonat of potash. It is in white grains and is deliquescent.

351. "*Carbonas potassae purissimus, olim sal tartari.* Pure carbonat of potash, formerly salt of tartar.—"Take of impure super-tartrite of potash, any quantity. Having wrapped it up in moist bibulous paper, or put it into a crucible, burn it into a black mass, by placing it among live coals, first reduced it to powder, subject it to a moderate heat, in an open crucible, until it become white, or at least of an ash-grey colour, care being taken that it do not melt. Then dissolve it in warm water, strain the liquor through linen, and evaporate it in a clean iron vessel, stirring the matter constantly towards the end of the evaporation, with an iron spoon, that it may not adhere to the bottom of the vessel. A very white salt will remain, which is to be left a little longer on the fire, until the bottom of the vessel is nearly at a red heat. When cold, it is to be kept in glass vessels, well stopt."

352. "The tartarous acid is decomposed by heating the super-tartrite of potash to heat. Part of its carbon and oxygen unite and form carbonic acid, which is attracted by the potash, and the carbonaceous matter is burnt out. A salt is obtained, which is a subcarbonat of potash. This salt is used as an antacid and diuretic.

353. "*Aqua potassae, vulgo lixivium causticum.* Water of potash.—"Take of newly prepared lime, pure carbonat of potash, 6 oz. Put the lime into an iron or earthen vessel, with 28 oz. of warm water. The ebullition being finished, immediately add the salt; and the whole being well mixed, cover the vessel till they become cold. Let the mixed materials, previously well agitated, be poured into a glass funnel, the throat of which is obstructed with clean linen. Cover the upper orifice of the funnel, while the neck of it is inserted into another glass vessel, that the water of potash may gradually drop through the linen into the lower vessel. When it first ceases to drop, pour on the funnel some ounces of water, but cautiously, so that it may swim above the matter. The water of potash will again begin to drop. In this manner the affusion of water is to be repeated, until it have filtered, which will be in 2 or 3 days. The upper parts of the liquor are to be mixed with the lower by agitation, and it is to be kept in a vessel well stopt."

354. "Lime, having a stronger attraction to carbonic acid, than potash has, attracts that acid from the sub-carbonat, and leaves the potash pure. It is used in medicine as a lithontriptic and antacid.

355. "*Aqua super-carbonatis potassae.* Water of super-carbonat of potash.—"Take of water 10 lb. pure carbonat of potash, one ounce. Dissolve, and expose the solution to the current of carbonic acid gas, which arises from three ounces of powdered carbonat of lime, three ounces of sulphuric acid, and three pounds of water gradually and carefully mixed. The chemical apparatus invented by Nooth is well adapted to this preparation. But, if a larger quantity of the solution is required, the apparatus of Woulfe is preferable. The colder the air is, and the greater the pressure, the better will be the liquor. It ought to be kept in vessels well stopt."

356. *Potash*, when used as a lithontriptic irritates the stomach and bladder so much that it cannot be long continued. But when thus supersaturated with carbonic acid it is pleasant and safe. It is taken to the extent of 1 or 2 lb. in the day. When properly prepared, it is pungent and acidulous, and sparkles when poured into a glass.

357. "*Carbonas sodae, olim sal alkalinus fixus fossilis purificatus*, Carbonat of soda.—"Take of impure carbonat of soda, any quantity. Bruise it, and boil in water, until all the salt is dissolved. Strain the solution through paper, and evaporate it in an iron vessel, that after it has cooled crystals may form." The crystals are rhomboidal and contain a large quantity of water of crystallization. This salt is used as a lithontriptic under the form of a watery solution supersaturated with carbonic acid.

358. "*Aqua super-carbonatis sodae.* Water of super-carbonat of soda.—"This is prepared from 10 lb. of water, and 2 oz. of carbonat of soda, in the same manner as the water of super-carbonat of potash." This is also used as a lithontriptic, and preferred to the above as more pleasant.

359. "*Aqua acetitis ammoniae, vulgo spiritus Mindereri.* Water of acetite of ammonia.—"Take of carbonat of ammonia, any quantity. Pour on it as much distilled acetous acid as may be necessary to saturate exactly the ammonia." It is given as a diaphoretic, in divided doses of one ounce.

360. "*Acetis potassae.* Acetite of potash.—Take of pure carbonat of potash, any quantity. Boil it with a gentle heat in 4 or 5 times its weight of distilled acetous acid, and add more acid at different times, until, on the watery part of the former portion being nearly dissipated by evaporation, the acid newly added excite no effervescence: this will happen when about 20 parts of acid have been consumed. Then let it be slowly dried. Let the remaining impure salt be liquefied with a gentle heat, for a short time; then dissolved in water, and strained through paper. If the melting has been properly done, the strained liquor will be limpid; if not, of a brown colour. Afterwards evaporate with a very gentle heat this liquor, in a shallow glass vessel, stirring the salt while it concretes, that it may more quickly be brought to dryness. Lastly, the acetite of potash ought to be kept in a glass vessel, well closed, that it may not liquefy by the action of the air."

361. "In this process the acetous acid combines with the potash, disengaging the carbonic acid. The acetite of potash obtained by the evaporation is brownish. This salt was at one time celebrated as a diuretic, in a dose of one or two drachms; but it has now nearly fallen into disuse.

362. "*Potassa, olim causticum commune acerrimum.* Potash.—"Take of water of potash, any quantity. Evaporate it in a covered clean iron vessel, until, when the ebullition is finished, the saline matter flow smoothly like oil, which will happen before the vessel is at a red heat. Then pour it on a clean iron plate; cut it into small masses before it hardens, and immediately put them

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them into a phial well ſtopt." Potaſh in this form is uſed as a cauſtic; it quickly erodes animal matter, and, mixed with ſoap, has been uſed to open an ulcer.

363. "*Potaſſa cum calce, olim cauſticum commune mitius.* Potaſh with lime.—"Take of water of potaſh, any quantity. Evaporate it to one third in a covered iron veſſel; then mix with it as much newly ſlaked lime as may be ſufficient to give it the conſiſtence of a ſolid paſte, which is to be kept in a ſtopt veſſel." As a cauſtic, this is milder than the former, and is alſo leſs deliqueſcent.

364. "*Sulphas potaſſae: olim tartarum vitriolatum.* Sulphat of potaſh.—"Take of ſulphuric acid, diluted with ſix times its weight of water, any quantity. Put it into a large glaſs veſſel, and gradually drop into it, of carbonat of potaſh diſſolved in ſix times its weight of water, as much as may be neceſſary to the perfect ſaturation of the acid. The effervеſcence being over, ſtrain the liquor through paper; and, after due exhalation, put it aſide, that cryſtals may form. Sulphat of potaſh may alſo be conveniently made, by diſſolving the reſiduum of the diſtillation of nitrous acid in warm water, and ſaturating it with carbonat of potaſh."

365. "In the former of theſe proceſſes, the ſulphuric acid unites with the potaſh of the carbonat of potaſh, and expels the carbonic acid with effervеſcence. In the latter, which is the one generally followed, the exceſs of ſulphuric acid attached to the ſulphat of potaſh, which remains after the diſtillation of nitrous acid, is ſaturated by the addition of a ſufficient quantity of potaſh. The ſalt forms an irregular cryſtalline maſs; it has a very bitter taſte, and is ſparingly ſoluble in water. Its virtues are thoſe of a cathartic; its doſe half an ounce.

366. "*Sulphas potaſſae cum ſulphure, olim ſal polychreſtus.* Sulphat of potaſh with ſulphur.—"Take of nitrat of potaſh in powder, ſublimed ſulphur, equal weights. Throw them well mixed, in ſmall quantities at a time, into a red-hot crucible. The deflagration being finiſhed, let the ſalt cool, and keep it in a glaſs phial, well ſtopt." The nitrat of potaſh, being decompoſed by the red heat, affords oxygen to the ſulphur, in ſuch proportions as to convert it into ſulphuric and ſulphurous acids. Both acids are attracted by the potaſh. In its medicinal qualities, this ſaline compound does not appear to differ from the ſulphat of potaſh; and it is ſoon converted into it, by expoſure to the air.

367. "*Tartris potaſſae, olim tartarum ſolubile.* Tartrite of potaſh.—"Take of carbonat of potaſh, 1 lb. ſuper-tartrite of potaſh, 3 lb. or as much as may be neceſſary; boiling water, 15 lb. To the carbonat of potaſh diſſolved in the water, add, by ſmall quantities, the ſuper-tartrite of potaſh rubbed to a fine powder, as long as it excites effervеſcence, which generally ceaſes before three times the weight of the carbonat of potaſh have been thrown in. Then ſtrain the liquor, when cold, through paper; and, after due exhalation, put it aſide that cryſtals may form."

368. "The exceſs of tartarous acid in the ſupertartrite of potaſh, is ſaturated by the potaſh of the carbonat of potaſh, and the proper neutral ſalt formed. It is not eaſily cryſtallized. In its preparation, therefore, the ſolution is uſually evaporated to dryneſs. This ſalt has a bitter taſte it is very ſoluble in water, requiring only four parts of cold water for its ſolution. As a purgative, it is given in the doſe of one ounce.

369. "*Tartaris potaſſae et ſodae, olim ſal rupellenſis.* Tartrite of potaſh and ſoda.—"This is prepared from carbonat of ſoda and ſuper-tartrite of potaſh, in the ſame manner as tartrite of potaſh. The exceſs of tartarous acid in the acidulous tartrite of potaſh, being ſaturated in this preparation with ſoda, a triple ſalt is formed. It cryſtallizes in rhomboidal priſms; is ſoluble in five parts water at 60°; has a bitter ſaline taſte. It is employed as a cathartic, in the doſe of one ounce, and is often preferred, as being leſs diſagreeable than other ſaline cathartics.

370. "*Phoſphas ſodae.* Phoſphat of ſoda.—"Take of bones, burnt to whiteneſs and reduced to powder, 10 lb.; ſulphuric acid, 6 lb.; water, 9 lb. Mix the powder in an earthen veſſel with the ſulphuric acid; then add the water, and mix. Keep the veſſel in a water-bath for 3 hours; at the end of which, dilute the matter, by adding other nine pounds of boiling water, and ſtrain through a ſtrong linen cloth, pouring over it gradually, boiling water, until the whole acid is waſhed out. Put aſide the ſtrained liquor, that the impurities may ſubſide, from which pour it off; and, by evaporation, reduce it to nine pounds. To this liquor, again poured off from the impurities, and heated in an earthen veſſel, add carbonat of ſoda diſſolved in warm water, until effervеſcence ceaſe. Then ſtrain, and put it by that cryſtals may form. Theſe being removed, add, if neceſſary, to the liquor, a little carbonat of ſoda, that the phoſphoric acid may be completely ſaturated; and prepare it by evaporation, &c. to form cryſtals, as long as theſe can be procured. Laſtly, let the cryſtals be kept in a veſſel well ſtopt."

371. "The white reſiduum of burnt bones conſiſts chiefly of phoſphat of lime. The ſulphuric acid decompoſes it, by combining with the lime; the phoſphoric acid, which is diſengaged, diſſolves, however, a portion of undecompoſed phoſphat of lime, forming a ſoluble compound. The carbonat of ſoda is added to the acidulous liquor obtained by waſhing the materials, the ſoda combines with the free phoſphoric acid; the neutral phoſphat of lime, which was combined with the acid, is precipitated, and the phoſphat of ſoda cryſtallizes on evaporation of the ſtrained liquor. Its cryſtals are rhomboidal, efflorеſcent, and require for ſolution only four parts of cold water. They conſiſt, according to Thenard, of 19 of ſoda, 15 of acid, and 66 of water. Its taſte is purely ſaline, without any bitterneſs; it is a mild cathartic, and, from being leſs naſeous than its taſte than the other ſalts, it is entitled to preference. Its doſe is one ounce.

372. "*Sulphas ſodae: olim, ſal glauberi.* Sulphat of ſoda; Glauber's ſalt.—"Diſſolve the ſaline ſalt remaining after the diſtillation of nitric acid, in water; and add to it chalk, to remove the ſuperfluous acid. Put it aſide until the impurities have ſubſided; then, having poured

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the liquor, and strained it through paper, reduce it by evaporation, that crystals may be formed." In the decomposition of muriat of soda by sulphuric acid, to prepare muriatic acid, more sulphuric acid is used than is barely sufficient; and hence the necessity of saturating this excess by the addition of chalk or carbonat of lime. The neutral sulphat of soda crystallizes in hexahedral prisms; they are efflorescent and soluble in rather less than three parts of cold water. This salt has been long in use as a cathartic, and its value is only lessened by its nauseous taste. Its dose is an ounce and a half.

373. "*Sulphuretum Potassæ: olim Hepar Sulphuris.* Take of carbonat of potash, sublimed sulphur, each 8 oz. Having rubbed them together, put them into a large coated crucible; and a cover being adapted to it, apply the fire to it cautiously, till they melt. The crucible, after it has cooled, being broken, remove the sulphuret, and preserve it in a phial well stopt." During the fusion of these two substances, the sulphur and potash unite, and the carbonic acid is disengaged. The compound is easily fusible, and is of a brown colour, and inodorous. It is immediately partially decomposed by water, and portions of sulphat of potash and sulphurated hydrogen formed. The dose in which it has been proposed to be given, is from 10 to 20 grains three or four times a-day. It has, in some cases of cancer, to have increased the efficacy of cicuta as a palliative, in doses of two grains.

374. "*Hydro-sulphuretum ammoniae.* Hydrosulphuret of ammonia.—"Take of water of ammonia 4 oz. Expose it in a chemical apparatus to a stream of gas, which arises from sulphuret of iron 4 oz.; muriatic acid, 8 oz. previously diluted with 2½ of water. The sulphuret of iron for this purpose is conveniently prepared from 3 parts of purified iron filings, and one part of sublimed sulphur, mixed together, and exposed in a red hot crucible, to a moderate heat, until they unite.

"The sulphurated hydrogen is produced in this process by the muriatic acid *disposing* the iron to decompose part of the water. The hydrogen disengaged immediately combines with a portion of the sulphur present, and this compound escapes in the state of gas, is passed through the water of ammonia, with which it unites, and forms a liquor of a dark green colour, and very fœtid odour. Hydro-sulphuret of ammonia is capable of powerfully depressing the actions of the stomach and general system, and has been used, principally in diabetes, in a dose of 3 or 4 drops, 3 or 4 times a-day.

375. "*Murias barytae.* Muriat of barytes.—Take of sulphat of barytes, 2 lb.; wood charcoal in powder, 4 oz. Roast the sulphat, that it may be the more easily reduced to a fine powder, with which is to be mixed the powdered charcoal. Put the matter into a crucible, to which a cover is fitted, and urge it with a strong fire for six hours.

Put the matter well rubbed into 6 lb. of boiling water, in a closed glass or earthen vessel, and mix them by agitation, preventing, as much as possible, the access of the air. Let the vessel stand in a water-bath, until the part not dissolved has subsided; then pour off the liquor. Pour on the residuum 4 lb. of boiling water, which, after agitation and subsidence, add to the former liquor. While it is yet hot, or, if it has cooled, after it has been heated, drop into it muriatic acid as long as effervescence is excited. Then strain it and evaporate, that it may crystallize."

377. Sulphat of barytes may be decomposed by carbonat of potash by double affinity, and perhaps this is the least troublesome process; but when done with a view to the medicinal application of the barytes, it has been supposed defective, as it does not separate the metallic substances with which the native sulphat is so frequently intermixed. The process of decomposing it, therefore, by charcoal, has been deemed preferable. The carbonaceous matter attracts the oxygen of the sulphuric acid; the sulphur remains united with the barytes. This sulphuret of barytes, as well as a portion of hydro-sulphuret formed during the solution, are soluble in water; on dropping in muriatic acid, it combines with the barytes, the sulphur is precipitated, and the sulphurated hydrogen disengaged. By straining and evaporating the liquor, the muriat of barytes is obtained crystallized. It is used under the form of solution, for which also a formula is given:

378. "*Solutio muriatis barytæ.* Solution of muriat of barytes.—"Take of muriat of barytes, one part. Distilled water, 3 parts. Dissolve." The saturated solution of muriat of barytes was introduced by Dr Crawford, as a remedy in scrofulous affections, and has been regarded as a tonic of considerable power. It is by no means inert, and the dose requires to be regulated with some care. Five drops are given twice a-day, and gradually increased to 20 or more.

379. "*Solutio muriatis calcis.* Solution of muriat of lime.—"Take of pure carbonat of lime (namely white marble), in small pieces 9 oz.; muriatic acid, 16 oz.; water, 8 oz. Mix the acid with the water, and add gradually the pieces of carbonat of lime. The effervescence being finished, digest for an hour. Pour off the liquor, and reduce it by evaporation to dryness. Dissolve the residuum in its weight and a half of water, and strain." The muriatic acid combines with the lime, and disengages the carbonic acid. The solution of muriat of lime has been strongly recommended as a tonic, similar, and not inferior to the muriat of barytes. The dose is from 15 to 20 gr. of the dried salt, or 30 drops of the saturated solution.

380. "*Carbonas magnesiae: olim Magnesia alba.* Carbonat of magnesia.—"Take of sulphat of magnesia, carbonat of magnesia, of each equal weights. Let them be dissolved separately in twice their weight of warm water, and either strained or otherwise freed from impurities. Then mix them, and immediately add 8 times their weight of boiling water. Boil the liquor a little, stirring it at the same time; then allow it to remain at rest, until the heat be diminished a little, and strain it through linen, on which the carbonat of magnesia will remain. Wash it with pure water, until it be perfectly tasteless."

381. This is an example of double affinity, the sulphuric acid of the sulphat of magnesia combining

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ing with the potash of the carbonat of potash, and the carbonic acid uniting with the magnesia. The boiling water, and boiling the liquor, are, partly to dissolve the sulphat of potash, which is a salt sparingly soluble, and partly to give the carbonat of magnesia a smoothness which it has not when this precaution is not observed. Carbonat of magnesia, however, is generally prepared on a large scale from the *Bittern*, or liquor remaining after the crystallization of muriat of soda from sea-water, which is principally a solution of muriat of magnesia: and there are some niceties of manipulation requisite to give it the lightness and smoothness which are valued as marks of its goodness. Carbonat of magnesia, properly prepared, is nearly insipid; it is extremely light, white, and smooth to the touch; is insoluble in water. It is given as an antacid in a dose from a scruple to a drachm; and the magnesia, by combining with acid in the stomach, forms a salt which acts as a laxative.

382. "*Magnesia: olim Magnesia Usta.* Magnesia. —" Let carbonat of magnesia be exposed in a crucible, to a red heat, for two hours. Then preserve it in glass phials well stopt." By a red heat, the carbonic acid of the carbonat is expelled, and the pure magnesia remains. It loses about half its weight. A smaller quantity, therefore, of the pure magnesia, will produce the same effect as a larger of the carbonat. It is preferred to the latter, where, from the abundant acidity on the stomach, flatulence is occasioned by the disengagement of carbonic acid when the carbonat is employed.

Sect. XX. Metallica.—Metallic Preparations.

383. The following metals are employed in medical practice: Silver, quicksilver, copper, iron, tin, lead, zinc, antimony, and arsenic. Metals, in their pure state, do not appear to exert any action on the living system; their combinations only possess medicinal virtues.

384. "The oxydation of metals, and the combination of their oxyds with acids, are the chemical changes which communicate to them activity. In general they are more active, in proportion as they are more highly oxydated, and are still more so when combined with acids. Oxygen is not, however, to be regarded, according to a modern hypothesis, as the source of their activity: each metal possesses powers, which, though increased or diminished according to the degree of oxydation, are peculiar to itself, and remain in all its preparations.

Argentum.—Silver.

385. "*Nitras Argenti: olim Causticum Lunare.* Nitrat of silver.—" Take of the purest silver, extended in plates and cut, 4 oz.; diluted nitrous acid, 8 oz.; distilled water, 4 oz. Dissolve the silver in a phial with a gentle heat, and evaporate the solution to dryness. Then put the mass into a large crucible, which is to be put on the fire, which must be at first gentle, and gradually increased until the mass flow like oil. Then pour it into iron pipes, warmed and rubbed with grease. Lastly, keep it in a glass vessel well stopt." The silver in this process is oxydated and dissolved by the nitrous acid. By the fusion, part of the acid is expelled, so that this is rather a *sub-nitrat.* is a strong caustic, and being easily applied, is very general use.

Antimonium.—Antimony.

386. "*Sulphuretum antimonii præparatum: olim Antimonium præparatum.* Prepared antimony. " Let sulphuret of antimony be prepared in the same manner as carbonat of lime." See § 20.

387. "*Oxidum Antimonii cum Sulphure Vitrificatum: olim, Vitrum Antimonii.* Vitrified sulphurated oxyd of antimony.—" Strew sulphuret of antimony, rubbed to a coarse powder like on a shallow unglazed earthen vessel, and to it a gentle fire, that the sulphuret of antimony may be slowly heated; at the same time constantly the powder, that it may not run lumps. White vapours, smelling of sulphur arise from it. When these, while the same of heat is kept up, cease, increase the heat that vapours may again exhale; and proceed this manner, until the powder, raised at length a red heat, exhales no vapours. This powder ing put into a crucible, is to be melted strong fire, until it assume the appearance of glass; then pour it upon a heated brass plate

388. " In the first stage of this process greater part of the sulphur of the sulphuret timony is dissipated, and the antimony is fectly oxydated. This oxyd is then vitrified the more intense heat applied. According to nard, it contains 16 of oxygen in the 100; is farther combined, according to Proust, portion of sulphuret of antimony; and, from experiments of Vauquelin, it appears also tain from 9 to 10 parts in the 100 of earth, derived probably from the crucibles it is prepared. It is violent and at the first uncertain in its operation, and is not used preparing some of the other antimonials.

389. "*Oxidum Antimonii Vitrificatum cum olim, Vitrum Antimonii Ceratum.* Vitrified of antimony with wax.—" Take of yellow one part; vitrified sulphurated oxyd of antimony eight parts. To the wax, melted in an iron add the oxyd rubbed to powder, and roast with a gentle fire, for a quarter of an hour ring constantly with a spatula; then pour out matter, which, when it is cold, rub to powder. Though once highly recommended in dyspepsia this may be regarded as an obsolete remedy. dose was from 5 to 15 grains.

390. "*Oxidum Antimonii cum Phosphate olim, Pulvis Antimonialis.* Oxyd of antimony with phosphat of lime.—" Take of sulphurated antimony, rubbed to a coarse powder, hartshavings, of each equal parts. Mix and them into a wide iron pot, red hot, and stir constantly until they are burnt into a matter ash-colour, which remove from the fire, powder, and put into a coated crucible. Let this crucible another inverted, in the bottom which a small hole is drilled; apply the which is to be gradually raised to a white

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and kept at this increaſed heat for two hours. Laſtly, rub the matter, when cold, into a very fine powder."

391. "This has been introduced into the Pharmacopœias, as affording a preparation ſimilar to the celebrated empirical remedy, *James's Powder*." JAMES'S POWDER.

392. "Mr Chenevix has propoſed another method of obtaining this preparation. It conſiſts in diſſolving equal weights of the white powder, precipitated by water, from muriat of antimony, and pure phoſphat of lime, in as much muriatic acid as may be neceſſary, with the aſſiſtance of a moderate heat, and pouring this ſolution into ammonia diluted with diſtilled water. The ammonia combines with the muriatic acid, and the oxyd of antimony and phoſphat of lime are thrown down intimately mixed.

393. "James's powder has been long celebrated as a remedy in febrile affections. It acts as a very powerful evacuant, by ſweating, purging, and vomiting. Its doſe is 5 or 6 grains, repeated every 6 hours. It is better adapted to fevers of an inflammatory nature than to thoſe of the typhoid kind.

394. "*Sulphuretum antimonii præcipitatum* Precipitated ſulphuret of antimony.—"Take of water boiling, 4 lb.; water, 3 lb.; prepared ſulphuret of antimony, 2 lb. Boil them in a covered iron pot, over a gentle fire, for 3 hours, ſtirring frequently with an iron ſpatula, and adding water as it may be neceſſary. Strain the hot liquor through a clean linen cloth, and to this ſtrained liquor add as much diluted ſulphuric acid as may be neceſſary to precipitate the ſulphuret, which is to be afterwards waſhed with warm water."

395. "From the analyſis of this compound by Thenard, it appears to be compoſed of 68·3 of the uncoloured oxyd of antimony, (which contains 18 of oxygen, and 82 of antimony), 17·8 of hydrurated hydrogen, and 11 or 12 of ſulphur. During the ſulphuret of antimony with the potaſh, ſulphuret of potaſh is formed, which, decompoſing part of the water, hydro-ſulphuret is produced, the antimony being oxydated.

396. "When the liquor obtained by boiling the oxyd of potaſh on the ſulphuret of antimony is filtered and allowed to cool, it depoſites a red-coloured powder, which has been known by the name of KERMES MINERAL, and has been much uſed on the continent. From Thenard's analyſis it appears to be a compound of brown oxyd of antimony and ſulphurated hydrogen, with a ſmall proportion of ſulphur. The doſe of the precipitated ſulphuret of antimony, or, as it ſhould rather be called, the *Hydro-ſulphurated Oxyd of Antimony*, is 1 gr.

397. "*Oxidum antimonii cum ſulphure, per nitratem: olim, Crocus Antimonii.* Oxyd of antimony with ſulphur, by nitrat of potaſh.—"Take ſulphuret of antimony, nitrat of potaſh, of each equal weights. Triturate them ſeparately, and having mixed them well together, throw them into a crucible red hot. The deflagration being over, ſeparate the reddiſh matter from the ſcoriform crust, and rub it to a powder, which is to be frequently waſhed with warm water, until it become inſipid."

398. "During deflagration the nitric acid of the nitrat of potaſh is decompoſed; its oxygen is attracted by the ſulphur and the antimony. The ſulphurous acid is diſſipated: part of the ſulphuret of antimony eſcapes and unites with the oxyd. The preparation is therefore an imperfect oxyd of antimony. As an antimonial, this preparation is ſo uncertain in its operation, that it is never preſcribed; it is uſed in making ſome of the other preparations of this metal.

399. "*Murias antimonii.* Muriat of antimony.—"Take of oxyd of antimony with Sulphur by nitrat of potaſh, ſulphuric acid, of each 1 lb.; dried muriat of Soda, 2 lb. Pour the ſulphuric acid into a retort, adding gradually the muriat of ſoda and the oxyd of antimony, previouſly mixed. Then diſtil from warm ſand. Expoſe the diſtilled matter for ſome days to the air, that it may deliqueſce; then pour the liquid part from the impurities."

400. "In this operation the muriat of ſoda is decompoſed by the ſulphuric acid combining with the ſoda; the muriatic acid diſengaged, unites with the oxyd of antimony and the compound is volatilized. This preparation is unfit for internal uſe; externally it has ſometimes been uſed as a cauſtic. Decompoſed by potaſh, it affords an oxyd which has been uſed in preparing the tartrite of antimony.

401. "*Tartris antimonii: olim, Tartarus Emeticus.* Tartrite of antimony.—"Take of oxyd of antimony with ſulphur by nitrat of potaſh, three parts; ſuper-tartrite of potaſh, four parts; diſtilled water, 32 parts. Boil them in a glaſs veſſel for a quarter of an hour. Strain through paper, and put aſide the ſtrained liquor, that cryſtals may be formed."

402. "As this is the moſt important of the antimonial preparations, the proceſſes for obtaining it have been often varied, principally in the ſelection of the oxyd of antimony employed. The object is to obtain an oxyd, not too expenſive in its preparation, and which ſhall combine with facility with the tartarous acid. The vitrified oxyd is the moſt unexceptionable.

403. "Tartrite of antimony and potaſh cryſtallizes in ſmall triedral pyramids, which are efflorescent. It is very ſuſceptible of decompoſition, from acids, alkalies, earths, neutral ſalts, vegetable infuſions and decoctions, &c. This preparation, however, is undoubtedly ſuperior to the other antimonials, in the certainty of its operation; and, from its ſolubility, is more manageable with regard to doſe. It is given as an emetic in a doſe of from 1 to 3 gr. diſſolved in water; and, in ſmaller doſes, as an expectorant and diaphoretic.

404. *Vinum tartritis antimonii: olim, vinum antimoniale.* Wine of tartrite of antimony.—"Take of tartrite of antimony, 24 grains; white wine, 1 lb. Mix, ſo that the tartrite of antimony may be diſſolved." This ſalt is beſt preſerved in wine. It is given as an emetic in the doſe of one ounce; as a diaphoretic, in a much ſmaller doſe.

405. "*Vinum antimonii tartariſati. Pharm. Lond.* Wine of tartariſed antimony.—"Take of tartariſed antimony, 2 ſcruples; boiling diſtilled water by meaſure, 2 oz. Spaniſh white wine by meaſure,

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ſure, 8 oz. Diſſolve the tartariſed antimony in the boiling diſtilled water, and add the wine." It is to be regretted, that preparations ſo ſimilar in name as theſe two wines, ſhould differ materially in ſtrength; this containing 4 grains of tartrite of antimony in the ounce, the other only two grains. The doſe of this wine as an emetic, is half an ounce.

406. "*Vinum antimonii.* Antimonial wine. *Pharm. Lond.*—"Take of vitrified antimony, in powder, one ounce; Spaniſh white wine, one pound and a half. Digeſt for 12 days with frequent agitation, and ſtrain through paper."

407. "*Antimonium calcinatum.* Calcined antimony. *Pharm. Lond.* White oxyd of antimony.—"Take of antimony (ſulphuret of antimony) in powder, 8 oz. Nitre in powder, 2 lb. Mix them, and throw the mixture gradually into a red hot crucible. Burn the matter remaining after the deflagration, for half an hour, and, when cold rub it to powder; then waſh it with diſtilled water."

408. "This preparation is of little activity; it was ſuppoſed to be diaphoretic, and was given in a doſe from 5 to 10 grains, as a ſubſtitute for James's powder; but it is now ſeldom employed."

CUPRUM.—COPPER.

409. "*Ammoniaretum cupri*; *olim, cuprum ammoniacum.* Ammoniuret of copper.—"Take of pure ſulphat of copper, two parts; carbonat of ammonia, three parts. Rub them thoroughly in a glaſs mortar, until all effervescence is finiſhed, and they unite uniformly into a violet-coloured maſs, which being wrapt in bibulous paper, is to be dried, firſt on a chalk ſtone, and afterwards with a gentle heat. It is to be kept in a glaſs phial well ſtopt." The ſulphat of copper is decompoſed by the carbonat of ammonia; one part of ammonia combines with the ſulphuric acid; another with the oxyd of copper; and the violet-coloured maſs, which is formed, is a mixture of the two reſulting compounds.

410. A compound ſomewhat ſimilar is obtained, according to a formula inſerted in ſeveral of the foreign pharmacopœias, in which a ſaturated ſolution of ſulphat of copper is decompoſed by ammonia, the ammonia being added in exceſs, ſo as to re-diſſolve the oxyd of copper; to this ſolution alkohol is added, by which the ammoniuret of copper is precipitated in ſmall cryſtals. The preſent preparation has been chiefly employed as a remedy in epilepſy. It is given in a doſe of at firſt half a grain twice a-day, which is gradually and ſlowly increaſed to two or three grains, and continued for ſome time.

411. "*Solutio ſulphatis cupri compoſita: olim, aqua ſtyptica.* Compound ſolution of ſulphat of copper.—"Take of ſulphat of copper, ſulphat of alum, of each 3 oz.; water 2 lb.; ſulphuric acid one ounce and a half. Boil the ſulphats in water, that they may be diſſolved; then to the liquor ſtrained through paper add the acid." This has been applied topically to check hæmorrhage, and largely diluted with water, as a waſh in purulent ophthalmia.

412. *Aqua cupri ammoniati.* Water of ammoniated copper. *Pharm. Lond.*—"Take of ſal ammoniac (muriat of ammonia), one drachm; lime water, 1 lb. Allow them to remain in a copper veſſel until the ammonia is ſaturated with copper." This has been applied, diluted with an equal part of water, as a gentle eſcharotic, to remove ſpecks from the cornea. A ſimilar preparation had formerly a place in the Edinburgh Pharmacopœia under the name of *Aqua aeruginis ammoniata.*

FERRUM.—IRON.

413. "*Ferri limatura purificata.* Purified filings of iron.—"Having placed a ſieve over the filings apply a magnet, that they may be drawn through the ſieve upwards."

414. "*Carbonas ferri*; *olim, ferri rubigo.* Carbonat of iron.—"Let purified filings of iron be frequently moiſtened with water, that they may fall into a ruſt, which is to be rubbed to a fine powder." See § 23.

415. "*Carbonas ferri praecipitatus.* Precipitated carbonat of iron.—"Take of ſulphat of iron 4 oz.; carbonat of ſoda, 5 oz.; water, 1 gallon. Diſſolve the ſulphat of iron in the water; then add the carbonat of ſoda, previouſly diſſolved in as much water as may be neceſſary, and mix them well. Let the carbonat of iron, which is precipitated, be waſhed with warm water, and afterwards dried." Carbonat of iron is a mild, but not inactive preparation. It is given as a tonic in a doſe of 5 or 10 grains. The formula of Griffiths, which has been highly celebrated as a chalybeate, is an extemporaneous preparation of this kind.

416. "*Ferri oxidum nigrum purificatum*; *ferri ſquamae purificatae.* Purified black oxyd of iron.—"Let the ſcales of iron, gathered at the forges of the workman, be purified, by application of a magnet. The magnet attracts only the blacker and purer ſcales, leaving the larger and lighter."

417. "*Sulphas ferri.* Sulphat of iron.—"Take of purified filings of iron 6 oz.; ſulphuric acid 8 oz.; water, two pounds and a half. Mix them; and the effervescence being over, digeſt for a certain time in a ſand-bath; then ſtrain the liquor through paper, and, after due evaporation, put it by that cryſtals may form." Sulphat of iron is one of the moſt active preparations of the metal. The medium doſe is from 3 to 5 grains.

418. "*Sulphas ferri exſiccatus.* Dried ſulphat of iron.—"Take of ſulphat of iron, any quantity. Heat it in an unglazed earthen veſſel, on a gentle fire, until it become white and perfectly dry."

419. "*Oxidum ferri rubrum.* Red oxyd of iron. "Let dried ſulphat of iron be expoſed to a violent heat, until it is converted into a red-coloured powder."

420. "*Tinctura muriatis ferri.* Tincture of muriat of iron.—"Take of the purified black oxyd of iron, in powder, 3 oz.; muriatic acid, 10 oz.; Digeſt with a gentle heat, and, when the powder is diſſolved, add as much alkohol as will there ſhall be of the whole liquor two pounds and a half." This is a very active preparation, and is given in the diſeaſes in which iron is employed in a doſe of 10 or 15 drops.

421. "*Murias ammoniae et ferri*: *olim, muri*

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martiales. Muriat of ammonia and iron.—"Take of red oxyd of iron, washed and again dried, muriat of ammonia, of each equal weights. Mix them well together, and sublime." It is not used.

422. "*Tinctura ferri ammoniacalis. Pharm. Lond.*—"Take of ammonical iron, four ounces; proof spirit, by measure, one pound. Digest and strain."

423. "*Ferrum tartarisatum.* Tartarised iron. *Pharm. Lond.*—"Take of filings of iron, 1 lb.; crystals of tartar (super-tartrite of pot-ash), powdered, 2 lb.; distilled water, 1 lb. Mix them, and expose the mixture to the air in an open glass vessel for 8 days; then rub the matter, dried by a sand-bath, into a very fine powder." This medicine is milder in its operation than some of the other saline preparations of the metal. Its dose is from 5 to 15 grains. It is very soluble in water.

424. "*Vinum ferri.* Wine of iron. *Pharm. Lond.*—"Take of filings of iron, 4 oz.; Spanish white wine, 4 lb. Digest with frequent agitation for a month, and strain." Dose 1 or 2 dr.

HYDRARGYRUS—QUICKSILVER.

425. "*Hydrargyrus purificatus.* Purified quicksilver.—"Take of quicksilver, four parts; iron filings, one part. Rub them together and distil from an iron vessel."

426. "*Acetis hydrargyri.* Acetite of quicksilver.—"Take of purified quicksilver, 3 oz.; diluted nitrous acid, 4½ oz. or a little more than may be requisite to dissolve the quicksilver; acetite of potash, 3 oz.; boiling water, 8 lb. Mix the quicksilver with the diluted nitrous acid; and towards the end of the effervescence, digest with a gentle heat, until the quicksilver be entirely dissolved. Then dissolve the acetite of potash in the water, and immediately on this solution, while hot, pour the other, and mix them both by agitation. Then put aside, that crystals may be formed. These being placed in a funnel, wash them with cold distilled water; and, lastly, dry them with a very gentle heat. In preparing the acetite of quicksilver, it is necessary that all the vessels and the funnel which are employed should be glass."

427. "As an antisyphilitic remedy, acetite of mercury is very mild in its operation; but its effects are not considered as sufficiently permanent to allow of it being relied on in effecting a radical cure. Its dose is a grain, night and morning. It is soluble in hot water; not in cold.

428. "*Murias hydrargyri: olim, mercurius sublimatus corrosivus.* Muriat of mercury, or corrosive sublimate.—"Take of purified quicksilver, 2 lb.; sulphuric acid, two lb. and a half; muriat of soda, 2 lb. 4 lb. Boil the sulphuric acid with the quicksilver in a glass vessel placed in a sand-bath, until the matter become dry. Mix the cold matter in a glass vessel with the muriat of soda; then sublime it in a glass cucurbit with a heat gradually increased. Separate the sublimed matter from the fixed." The process, formerly used, was, to mix nitrat of mercury, muriat of soda, and dried sulphat of iron, and expose the mixture to a heat sufficient to sublime the muriat of mercury: And we think, notwithstanding the expence of the sulphuric acid, that it more certainly affords the whole mercury in the form of corrosive muriat, than the one now adopted.

429. "According to the analysis of muriat of mercury by M. Chenevix, it consists of 82 of oxyd of mercury (this oxyd being composed of 85 of mercury and 15 of oxygen), and 18 of muriatic acid; or, its ultimate constituents are, quicksilver 69·7, oxygen, 12·3, and muriatic acid, 18. By slow sublimation, it is obtained crystallized in slender prisms; by a more hasty sublimation, in a compact crystalline mass. It is easily soluble in water, requiring 20 parts at 60° for its solution, and 2 parts at 212°. It is likewise soluble in alkohol. Its taste is acrid and metallic. It turns to a green several vegetable colours; is decomposed by the alkalies and earths, and by a number of compound salts, and likewise by vegetable infusions.

430. "It is the most powerful of the mercurial preparations. Its dose cannot safely exceed the 4th of a grain, nor can more than one grain be given in 24 hours. As an antisyphilitic remedy it has long been established in practice, and it possesses some advantages. It acts speedily, and its action is more general on the system, or less determined to particular parts; but these are more than counterbalanced by the occasional violence of its operation, and by the circumstance which seems now admitted, that it cannot be so much relied on in establishing a permanent cure. It is given in the form of solution in water or alkohol, the dose being increased from the 6th to the 4th of a grain, night and morning, and mucilaginous diluents being freely taken, with the occasional use of opium. As the solution has a very disagreeable taste, it is sometimes made into pills with crumb of bread. In other diseases besides lues venerea, it is occasionally exhibited, particularly in cutaneous affections. Externally, its solution is employed as an escharotic in chancre and venereal ulcers of the mouth; and a very dilute solution of it has been used as an injection, to excite inflammation in obstinate gleet.

431. "*Sub-murias hydrargyri: olim, Calomelas.* Sub-muriat of quicksilver.—"Take of muriat of quicksilver, rubbed to powder in a glass mortar, 4 oz.; purified quicksilver, 3 oz. Rub them together in a glass mortar, with a little water, that the operator may be guarded against the acrid powder which would otherwise arise, until the quicksilver is extinguished. Put the dried powder into an oblong phial, of which it shall fill only one 3d, and let it be sublimed in a sand-bath. The sublimation being finished, and the phial broken, the red powder at the bottom and the white one about the neck of it are equally to be rejected; the remaining mass is to be again sublimed, and rubbed into a fine powder, which is lastly to be washed with boiling distilled water."

432. "In this process an additional quantity of quicksilver is brought into chemical union with the constituent principles of muriat of mercury. The proportions of the ingredients in the sub-muriat are, muriatic acid, 11·5, oxyd of mercury, 88·5, (this oxyd being composed of quicksilver, 89·3, and oxygen 10·7.) So that the ultimate constituent part of sub-muriat of mercury, are, quicksilver, 79, oxygen, 9·5, muriatic acid, 11·5.

433. The names which have been chosen to distin-

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diſtinguiſh theſe two muriats of mercury, Mr Murray thinks, are not the beſt that might have been ſelected. The epithets *corroſive* and *mild* diſcriminate them more clearly, and, as ſyſtematic names, are preferable.

434. "This preparation of mercury differs from the former, in being perfectly inſipid, and inſoluble in water or alkohol. By ſublimation it may be obtained in ſmall ſhort priſms, but it is uſually in the form of a maſs ſomewhat ductile, ſemitranſparent and very heavy. It is decompoſed by the alkalies, earths, and various compound ſalts.

435. "*Sub-muriat*, or mild muriat of mercury, is one of the moſt uſeful preparations of the metal. As an anti-venereal, it is given in the doſe of a grain night and morning, its uſual determination to the inteſtines being prevented, if neceſſary, by opium. It is the preparation which is, perhaps, moſt uſually given in the other diſeaſes in which mercury is employed, as in affections of the liver or neighbouring organs, in cutaneous diſeaſes, chronic rheumatiſm, tetanus, hydrophobia, hydrocephalus, and febrile affections, eſpecially thoſe of warm climates. It is employed as a cathartic alone, or to promote the operation of other purgatives. Its anthelmintic power is juſtly celebrated; and it is perhaps ſuperior to the other mercurials, in aſſiſting the operation of diuretics in dropſy. From its great ſpecific gravity, it ought always to be given in the form of bolus or pill.

436. "*Sub-murias hydrargyri praecipitatus*. Precipitated ſub-muriat of mercury.—"Take of diluted nitrous acid, purified quickſilver, of each 8 oz.; muriat of ſoda, 4½ oz.; Boiling water, 8 lb. Mix the quickſilver with the diluted nitrous acid; and, towards the end of the efferveſcence, digeſt with a gentle heat, ſhaking the veſſel frequently. It is neceſſary, however, that more quickſilver ſhould be mixed with the acid than this can diſſolve, that the ſolution may be obtained fully ſaturated. Diſſolve at the ſame time the muriat of ſoda in the boiling water: pour the other ſolution on this while warm, and mix them quickly together. After the precipitate ſubſides, pour off the ſaline liquor, and waſh the ſub-muriat of mercury, by frequently adding warm water, pouring it off after each time the precipitate ſubſides, until it come off taſteleſs."

437. "In the original proceſs of Scheele, the nitrous acid was directed to be boiled on the mercury, to ſaturate it more fully with the metal, that, by adding a large proportion of mercury to nitrous acid, and promoting the ſolution by heat, the combination might be obtained in which the metal is imperfectly oxydated. It is found, however, that this is not the caſe.

438. Mild muriat of mercury, prepared in this mode, is preciſely the ſame in its chemical compoſition as when formed by the former proceſs of ſublimation. It has been ſuppoſed, however, that it differs ſomewhat in its operation, and is more liable to produce purging. If ſuch a difference exiſt, it is owing to the preſence of the ſub-nitrat, mixed with the mild muriat. If the latter is pure, its operation muſt be the ſame as that of the muriat prepared by ſublimation, as it differs from it only in being in a much finer powder, and this is ſuppoſed to give it ſome ſuperiority.

439. "*Oxidum hydrargyri cinereum*. Aſh-coloured oxyd of quickſilver.—"Take of purified quickſilver, 4 parts; diluted nitrous acid, 5 parts; diſtilled water, 15 parts; water of carbonat of ammonia, *q. s.* Diſſolve the quickſilver in the acid. Add gradually the diſtilled water. Then pour on as much of the water of carbonat of ammonia as may be ſufficient to precipitate the oxyd of quickſilver, which is to be afterwards waſhed with pure water and dried."

440. "Aſh-coloured oxyd of mercury is very ſimilar in its operation to the preparations in which quickſilver is oxydated by trituration. It is given as an anti-venereal in the doſe of one grain night and morning, generally in the form of pill."

441. "*Oxidum hydrargyri rubrum per acidum nitricum: olim, mercurius praecipitatus ruber.* Red oxyd of quickſilver by nitric acid.—"Take of purified quickſilver, 1 lb.; diluted nitrous acid, 16 oz. Let the quickſilver be diſſolved. Evaporate the ſolution with a gentle fire to a white maſs, which, being reduced to powder, is to be put into a glaſs cucurbit, a thick glaſs plate be put over its ſurface. Then a capital being added, and the veſſel placed in ſand, apply to the fire gradually raiſed, until it paſs into very ſmall ſcales." This is too acrid for internal and is principally uſed externally as an eſchatic.

442. "*Sub-ſulphas hydrargyri flavus: olim, Turpethum minerale*. Yellow ſub-ſulphat of quickſilver.—"Take of purified quickſilver, 4 oz. ſulphuric acid, 6 oz. Put them into a glaſs cucurbit, and boil in a ſand-bath to dryneſs. The white matter remaining at the bottom of the veſſel being powdered, is to be thrown into boiling water. It will thus be converted into a yellow powder, which muſt be frequently waſhed with warm water."

443. "As a medicine, it is too violent to be adminiſtered internally. Sometimes it has been given as a powerful emetic, in a doſe of 5 grains in caſes of ſwelled teſticle. It is a violent errhine and has been employed as ſuch mixed with a mild vegetable powder.

444. "*Sulphuretum hydrargyri nigrum: Aethiops Mineralis*. Black ſulphuret of quickſilver.—"Take of purified quickſilver, ſublimed ſulphur, of each equal weights. Rub them together in a glaſs mortar with a glaſs peſtle, until the globules of quickſilver entirely diſappear." By this trituration a chemical combination appears to be effected between the quickſilver and ſulphur. It is in the form of a very black powder. It is the moſt inactive, perhaps, of the mercurial preparations. As an anthelmintic it is ſometimes given in a doſe of 5 or 10 gr. according to the age.

445. "Some additional preparations of mercury have a place in the London Pharmacopœia, which are uſed in practice.

446. "*Hydrargyrus ſulphuratus ruber*. Red ſulphurated quickſilver. Cinnabar.—"Take of purified quickſilver, 40 oz.; ſulphur, 8 oz. Mix the quickſilver with the melted ſulphur. If the mixture inflame, extinguiſh it by covering the veſſel; then reduce it to powder and ſublime." This is uſed medicinally, principally under the form of fumig

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fumigation, to check the progress of venereal ulcers.

447. "*Hydrargyrus cum creta.* Quicksilver with chalk.—"Take of purified quicksilver, 3 oz.; prepared chalk, 5 oz. Rub them together until the globules disappear." This is very little used.

448. "*Hydrargyrus calcinatus.* Calcined quicksilver. Red oxyd of quicksilver.—"Take of purified quicksilver, 1 lb. Expose the quicksilver in a cucurbit, having a flat bottom, in a sand-heat of 600°, until it concretes into a red powder." The high price of this preparation prevents it from being employed in common practice. It has been regarded as one of the most active of the mercurials, and, at the same time, one of the most permanent in its effects, and has been recommended in confirmed *lues*, where other preparations have failed. Its dose is half a grain or a grain.

449. "*Calx hydrargyri alba.* White calx of quicksilver.—"Take of muriated quicksilver, sal-ammoniac (*Muriat of ammonia*), water of prepared kali, of each half a pound. Dissolve first the sal-ammoniac, and then the muriated quicksilver, in boiled water, to which add the water of prepared kali. Wash the powder until it is tasteless." This preparation, formerly known by the name of *white precipitate of mercury*, is used only externally in the form of ointment, as an application in some cutaneous affections.

PLUMBUM.—LEAD.

450. "*Acetis plumbi: olim, saccharum saturni, terra acetata.* Acetite of lead.—"Take of the oxyd of lead, any quantity. Put it into a pot, and pour upon it twice its weight of diluted acetous acid. Let the mixture stand on a hot sand until the acid become sweet; then pour it off, and add a fresh quantity as often as necessary, until it cease to acquire sweetness. Evaporate the whole liquor, freed from impurities, in a glass vessel, to the consistence of honey, and put it aside in a cool place, that crystals may concrete, which are to be dried in the shade. Evaporate the remaining liquor, that there may be a new formation of crystals, and repeat this evaporation until no more are formed." It is principally employed externally as an astringent—as a collyrium in ophthalmia; an injection in gonorrhœa; and a wash in superficial inflammation.

451. "*Aqua litharygri acetati.* Water of acetite of litharge. *Pharm. Lond.*—"Take of litharge, powdered, 4 oz.; distilled vinegar, one gallon. Mix them and boil to 6 lb. stirring constantly; then filter the liquor. After the impurities have settled, strain it." This preparation has been in use under the name of *Goulard's extract of lead*. It is merely a solution of acetite of lead in water with an excess of acid, and must be always variable in strength. It is applied to the same purposes as the acetite of lead.

ZINCUM.—ZINC.

452. "*Oxidum zinci.* Oxyd of zinc.—"Let a large crucible be placed in a furnace filled with burning fuel, so that it shall be somewhat inclined from its mouth; and, when the bottom of the crucible is at a moderate red heat, throw in pieces of zinc, about the weight, each of them, of one drachm. The zinc soon inflames, and is converted into white flocculi, which are to be removed, from time to time, from the surface of the metal, with an iron spatula, that the combustion may proceed more perfectly; and, when the inflammation ceases, remove the oxyd of zinc from the crucible. Another piece of zinc being thrown in, the operation is to be renewed and repeated as often as may be necessary. Lastly, let the oxyd of zinc be prepared in the same manner as carbonat of lime." This is employed principally as an antispasmodic in epilepsy and chorea. Its dose is from 2 to 5 gr. twice a-day, gradually increased.

453. "*Sulphas zinci: olim, vitriolum album.* Sulphat of zinc, or white vitriol.—"Take of zinc, cut into small pieces, 3 oz.; sulphuric acid, 5 oz.; Water, 20 oz. Mix them, and the effervescence being finished, digest for some time on warm sand. Then strain the liquor through paper; and, after due exhalation, put it aside that crystals may be formed." Sulphat of zinc is used principally as an astringent, in the form of solution,—as an injection in gonorrhœa, and a collyrium in ophthalmia.

454. "*Solutio sulphatus zinci.* Solution of sulphat of zinc.—"Take of sulphat of zinc, 16 gr.; water, 8 oz.; diluted sulphuric acid, 16 drops. dissolve the sulphat of zinc in water; then the acid being added, strain through paper." It is chiefly used as a collyrium in ophthalmia.

455. "*Aqua zinci vitriolati cum camphora.* Water of vitriolated zinc with camphor. *Pharm. Lond.*—'Take of vitriolated zinc, half an ounce; camphorated spirit, half an ounce by measure; boiling water, by measure, 2 lb. Mix them, and strain through paper." This also is used as a local application in ophthalmia, diluted with water.

456. "*Solutio acetitis zinci.* Solution of acetite of zinc.—"Take of sulphat of zinc, one drachm; distilled water, 10 oz. Dissolve it. Take also of acetite of lead, four scruples; distilled water, 10 oz. Dissolve it. Mix the solutions. Let the liquor remain at rest a little; then strain it." This solution is used as an injection in gonorrhœa; it is more astringent than the acetite of lead, and less irritating than the sulphat of zinc.

SECT. XXI. PULVERES.—POWDERS.

457. "THIS is the simplest form of composition of medicines, the different articles being merely reduced to powder, and mixed together. It is adapted to the exhibition of such remedies as are not ungrateful, and such as are not liable to lose their virtues by keeping. The powder, when it is to be taken, is mixed with any convenient vehicle.

458. "*Pulvis aromaticus.* Aromatic powder.—"Take of bark of cinnamon, smaller cardamom seeds, ginger root, of each equal parts. Rub them into a very fine powder, which is to be kept in a glass phial well stopt." In the London Pharmacopœia the proportion of cinnamon is larger, and 1 part of long pepper is likewise added. It is used merely to give fragrance to other compositions.

459. "*Pulvis asari Europæi compositus.* Compound

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pound powder of asarabacca.—"Take of the leaves of asarabacca, three parts; the leaves of marjoram, flowers of lavender, of each one part. Rub them together to a powder." This is used as a mild errhine, and, when a few grains are snuffed, occasions sneezing.

460. "*Pulvis carbonatis calcis compositus: olim, pulvis cretaceus.*—"Take of prepared carbonat of lime, 4 oz.; bark of cinnamon, one drachm and a half; nutmeg, half a drachm. Rub them together to powder.

461. "*Pulvis cretae compositus.* Compound powder of chalk. *Pharm. Lond.*—"Take of prepared chalk, half a pound; bark of cinnamon, 4 oz.; tormentil, gum arabic, of each 3 oz.; long pepper, half an ounce. Reduce them separately to powder, and mix them." These powders are designed as antacids, and are used principally in diarrhœa. The tormentil of the London Pharmacopœia must render it more astringent. The dose of either is from a scruple to a drachm.

462. "*Pulvis cretae compositus cum opio.* Compound powder of chalk with opium. *Pharm. Lond.*—"Take of compound powder of chalk, 8 oz.; hard purified opium, rubbed to powder, one drachm and a half. Mix them." The addition of opium to astringents and antacids in diarrhœa, is a common practice, and this formula affords a convenient composition of this kind. Its dose is one scruple or half a drachm. Two scruples contain very nearly one grain of opium.

463. "*Pulvis chelarum cancri compositus.* Compound powder of crabs claws. *Pharm. Lond.*—"Take of prepared crabs claws, 1 lb.; prepared chalk, prepared red coral, of each 3 oz. Mix them." These different articles being merely carbonats of lime, more or less pure, the mixing of them together must be entirely superfluous.

464. "*Pulvis jalapae compositus.* Compound powder of jalap.—"Take of the powder of the root of jalap, one part; super-tartrite of potash, two parts. Rub them together into a very fine powder." By this addition of the acidulous tartrite of potash to jalap, the operation of the latter is supposed to be rendered less irritating and more refrigerant. It is an excellent cathartic, operating freely, in a dose of a drachm and a half.

465. "*Pulvis ipecacuanhae et opii: olim, pulvis Doveri.* Powder of ipecacuanha and opium.—"Take of the powder of the root of ipecacuanha, opium, of each one part; sulphat of potash, 8 parts. Rub them together into a fine powder." In this composition we have an example of the power which one medicine has of modifying the action of another, the ipecacuan rendering the operation of the opium, as a sudorific, much more certain than it otherwise would be, and appearing also to diminish its narcotic effect. This powder is the most certain sudorific we possess, and as such is established in practice. The medium dose is 15 grains; the operation of which is to be assisted by the sweating regimen; and frequently it is necessary to give additional smaller doses at intervals, to produce sweat. Its principal use is in rheumatism.

466. "*Pulvis opiatus.* Opiate powder.—"Take of opium, one part; prepared carbonat of lime, nine parts. Rub them together to a fine pow der."

467. "*Pulvis opiatus.* Opiate powder. *Pharm Lond.*—"Take of hard purified opium, rubbe to powder, one drachm; prepared burnt hart horn, 9 drachms. Mix them." In these powder the opium is merely divided by the substance mi ed with it. Ten grains contain one grain of pium.

468. "*Pulvis scammonii compositus.* Compoun powder of scammony.—"Take of scammony, s per-tartrite of potash, of each equal parts. R them together into a very fine powder." T purgative operation of the scammony is suppos to be rendered milder by the super-tartrite of p ash. Its dose is from 10 to 20 grains.

469. "*Pulvis scammonii compositus.* Compo powder of scammony. *Pharm. Lond.*—"Tak scammony, extract of jalap, of each 2 oz.; gi half an ounce. Rub them separately to pow and mix them." This composition is of a different nature from the preceding; the purg ting operation of the scammony not being cor ed, but rather increased by the extract of j and the ginger. It is a strong cathartic. Its is ten grains.

470. "*Pulvis scammonii compositus cum* Compound powder of scammony with *Pharm. Lond.*—"Take of scammony, six drach extract of jalap, socotorine aloes, of each on and a half; ginger, half an ounce. Rub the parately to powder, and mix them." The tion of the aloes cannot alter very materially operation of the other ingredients. As a purg ting cathartic it may be given in a dose fro to 15 grains.

471. "*Pulvis scammonii cum calomelane.* der of scammony with calomel. *Pharm. L* "Take of scammony, half an ounce; cal refined sugar, of each two drachms. Rub separately to powder, and mix them." It sed both as a cathartic and anthelmintic. It is from ten grains to one scruple.

472. "*Pulvis sulphatis aluminae compositus lim, Pulvis stypticus.* Styptic powder, now pound powder of sulphat of argil.—"Take phat of argil, four parts; kino, one part. them into a fine powder" This has been times used internally in menorrhagia, in repe doses of 10 or 15 grains, and externally as a tic to bleeding wounds.

473. "*Pulvis aloes cum canella.* Powder o loes with canella. *Pharm. Lond.*—"Take of torine aloes, 1 lb.; white canella, 3 oz. them separately to powder; then mix the The canella covers the unpleasant flavour of aloes; and this combination is sometimes us a warm stimulating cathartic. It is gene made into a tincture, by infusing it in spirit.

474. "*Pulvis aloes cum guaiaco.* Powder loes with guaiac. *Pharm. Lond.*—"Take of torine aloes, one ounce and a half; guaiac resin, one ounce; aromatic powder, half an ou Rub the aloes and guaiac separately into pow then mix them with the aromatic powder." combination is seldom used. As a stimulatin perient, it may be given in a dose of 15 or 20

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475. "*Pulvis aloes cum ferro.* Powder of aloes with iron. *Pharm. Lond.*—"Take of ſocotorine aloes, one ounce and a half; myrrh, two ounces; dried extract of gentian, ſulphat of iron, of each one ounce. Rub them ſeparately to powder, and mix them." This combination affords a remedy of conſiderable power in amenorrhœa. Its doſe is from 10 to 15 grains at bed-time.

476. "*Pulvis ceruſſae compoſitus.* Compound powder of ceruſe. Pharm. Lond.—"Take of ceruſe, five ounces; ſarcocolla, one ounce and a half; tragacanth, half an ounce. Rub them together into a powder." This is uſed as an external application to ſuperficial inflammation, diffuſed in water, and ſometimes as a collyrium, or an injection in gonorrhœa.

477. "*Pulvis contrayervae compoſitus.* Compound powder of contrayerva. Pharm. Lond.—"Take of contrayerva, rubbed to powder, five ounces; compound powder of crabs claws, one ounce and a half." There ſeems little neceſſity for combining contrayerva with carbonat of lime, which can add nothing to its virtues. The doſe may be half a drachm, or two ſcruples.

478. "*Pulvis myrrhae compoſitus.* Compound powder of myrrh. Pharm. Lond.—"Take of myrrh, dried ſavin, dried rue, Ruſſian caſtor, of each one ounce. Rub them together to a powder." This is a combination of ſome of the more powerful emmenagogues. It may be given in amenorrhœa in the doſe of one ſcruple, or half a drachm.

479. "*Pulvis ſennae compoſitus.* Compound powder of ſenna. Pharm. Lond.—"Take of ſenna, cryſtals of Tartar, of each two ounces; ſcammony, half an ounce; ginger, two drachms. Rub the ſcammony ſeparately, the others together, into powder, and mix them." It may be uſed as a purgative, in a doſe of from half a drachm to a drachm.

480. "*Pulvis tragacanthae compoſitus.* Compound powder of tragacanth. Pharm. Lond.—"Take of tragacanth, rubbed to powder, gum arabic, ſtarch, of each one ounce and a half; refined ſugar, three ounces. Rub them together into powder." This combination of mucilaginous ſubſtances may be employed as demulcents, in the doſe of a drachm, or more, frequently repeated.

Sect. XXII. Electuaria.—Electuaries.

481. "Electuaries are compoſitions of the conſiſtence nearly of honey, and are generally made by adding to any powder a ſufficient proportion of ſyrup or mucilage. It is a form adapted for the exhibition of ſuch medicines as are not unpleaſaful in taſte or flavour. The ingredients are to be proportioned, that the doſe ſhall not be leſs than a tea ſpoonful, and not more than twice or thrice that quantity, at a time.

482. "*Electuarium aromaticum.* Aromatic electuary.—"Take of aromatic powder, one part; ſyrup of orange peel, two parts. Mix, beating them well together." This is a grateful aromatic preparation, frequently combined with other medicines, or made the baſis of cordial mixtures.

483. "*Electuarium caſſiae ſyſtilae.* Electuary of ſyſtilic caſſia.—"Take of the pulp of caſſia pods, four parts; pulp of tamarind, manna, of each one part; ſyrup of pale roſe, four parts. Diſſolve the manna beat in a mortar, with a gentle heat, in the ſyrup; then add the pulps, and, by a continued heat, reduce the mixture to a proper conſiſtence." This is ſcarcely ever uſed. It is a mild laxative in the doſe of an ounce.

484. "*Electuarium caſſiae ſennae: olim, electuarium lenitivum.* Electuary of ſenna.—"Take of the leaves of ſenna, eight ounces; coriander ſeeds, four ounces; liquorice root, three ounces; figs, one pound; pulp of tamarind, pulp of caſſia, pulp of prunes, of each half a pound; refined ſugar, two pounds and a half. Rub the ſenna with the coriander ſeeds, and ſeparate by paſſing thro' a ſieve ten ounces of the mixed powder. Boil the reſiduum with the figs and the liquorice, in four pounds of water to one half; then expreſs and ſtrain. Reduce the ſtrained liquor, by evaporation, to about one pound and a half. Afterwards add the ſugar, ſo as to make a ſyrup. Add this ſyrup gradually to the pulps; and, laſtly, mix in the powder." This electuary is in very common uſe as a mild and pleaſant purgative. Its doſe is ſix drachms, or an ounce.

485. "*Electuarium catechu: olim, confectio japonica.* Electuary of catechu.—"Take of extract of catechu, four ounces; kino, three ounces; bark of cinnamon, nutmeg, of each one ounce; opium, diffuſed in a ſufficient quantity of Spaniſh white wine, one drachm and a half; ſyrup of red roſe, boiled to the conſiſtence of honey, two pounds and a quarter. Reduce the ſolid ingredients to powder, and, mixing with them the opium and ſyrup, form an electuary." This is a combination of the more powerful aſtringents, rendered grateful by aromatics, and having its efficacy, as a remedy in diarrhœa, increaſed by the opium. It is the baſis of the common extemporaneous aſtringent mixture. One grain of opium is contained in rather more than three drachms.

486. "*Electuarium opiatum: olim, electuarium thebaicum.* Opiate electuary.—"Take of aromatic powder, ſix ounces; Virginian ſnake-root, rubbed to a fine powder, three ounces; opium, diffuſed in a ſufficient quantity of Spaniſh white wine, half an ounce; ſyrup of ginger, one pound. Mix, ſo as to form an electuary." This has kept its place in the Pharmacopœias as a ſubſtitute for the mithridate and theriaca Andromachi; preparations once highly celebrated, but now diſcarded. Each drachm contains a grain and a half of opium; and rather more in that prepared by the preſcription of the London College.

487. "*Electuarium ſcammonii.* Electuary of ſcammony. Pharm. Lond.—"Take of ſcammony, rubbed to powder, one ounce and a half; cloves, ginger, of each ſix drachms; oil of caraway, half a drachm; ſyrup of roſes, *q. ſ.* Mix the aromatics, rubbed together into a powder, with the ſyrup; then add the ſcammony, and, laſtly, the oil of caraway." This is a ſtimulating cathartic; its doſe is one drachm.

Sect. XXIII. Pilulae.—Pills.

488. "Pills are formed from a maſs ſufficiently ſtiff and adheſive to preſerve the round form

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form which is given to them; this due consistence being obtained by adding to powders a sufficient quantity of syrup, mucilage, or conserve. It is a form adapted to the exhibition of such medicines as are nauseous in taste or flavour, and such as operate in a small dose. A pill ought not to exceed five grains in weight, or 12 may be formed from a drachm of the mass.

489. "*Pilulae aloeticae.* Aloetic pills.—"Take of socotorine aloes, in powder, soap, of each equal parts. Beat them with simple syrup, so as to make a mass fit for forming pills."

490. "*Pilulae aloes compositae.* Compound aloes pills. Pharm. Lond.—"Take of socotorine aloes, in powder, one ounce; extract of gentian, half an ounce; oil of caraway, two scruples; syrup of ginger, *q. s.* Beat them together." Under either of these simple forms, aloes is very commonly exhibited as a cathartic. Two pills are a medium dose.

491. "*Pilulae aloes cum assa foetida.* Pills of aloes with assafoetida.—"Take of socotorine aloes, assafoetida, soap, of each equal parts. Beat them into a mass with mucilage of gum arabic." These pills have been given in dyspepsia and amenorrhœa, two or three being taken at bed-time occasionally.

492. "*Pilulae aloes cum colocynthide.* Pills of aloes with colocynth.—"Take of socotorine aloes, scammony, of each eight parts; colocynth, four parts; sulphat of potash with sulphur, oil of cloves, of each one part. Let the aloes and scammony be reduced, with the salt, to powder: then let the colocynth, rubbed into a fine powder, and the oil, be added. Lastly, beat them with mucilage of gum arabic into a mass." This is a more powerful cathartic than the simple aloetic pill, and is used in constipation, or to obviate habitual costiveness. Two pills are a common dose.

493. "*Pilulae aloes cum myrrha.* Pills of aloes with myrrh.—"Take of socotorine aloes, four parts; myrrh, two parts; saffron, one part. Beat them into a mass with simple syrup." This composition has long been in use as a stimulating aperient. Two or three pills are taken at bed-time.

494. "*Pilulae assae foetidae compositae.* Compound assafœtida pills.—"Take of assafœtida, galbanum, myrrh, of each eight parts; rectified oil of amber, one part. Beat them into a mass with simple syrup." These pills are used in hysteria and amenorrhœa, two or three of them being taken at bed-time.

495. "*Pilulae galbani compositae.* Compound pills of galbanum. Pharm. Lond.—"Take of galbanum, opoponax, myrrh, sagapenum, of each one ounce; assafœtida, half an ounce; syrup of saffron, *q. s.* Beat them together." These pills are similar to the preceding; are used in the same cases, and in the same dose.

496. "*Pilulae ammoniareti cupri.* Pills of ammoniuret of copper.—"Take of ammoniuret of copper, sixteen grains; crumb of bread, four scruples; water of carbonat of ammonia, as much as may be sufficient. Beat them into a mass, which divide into 32 equal pills." Under this form, ammoniuret of copper is given in epilepsy, and the other spasmodic diseases in which it has been employed. Half a grain of it is contained in each pill. One pill is given at first, night and morning, and the dose is gradually increased.

497. "*Pilulae hydrargyri.* Mercurial pill.—"Take of purified quicksilver, conserve of roses, of each one ounce; starch, two ounces. Rub the quicksilver with the conserve, in a glass mortar, until the globules entirely disappear, adding, as there may be occasion, a little mucilage of gum arabic; then add the starch, and beat with a little water, into a mass, which is to be immediately divided into 480 pills." This is the preparation of mercury that is most generally employed for internal use; and, while it is much milder in its operation than some others, it is perhaps capable of answering every purpose which the remedy can serve. The common dose, given with the view of inducing the usual mercurial action, is two pills at bed-time, and one in the morning, which, in particular cases and habits, require to be increased. Four or six pills given at once generally excite purging.

498. "*Pilulae opiatae: olim, pilulae thebaicae.* Opiate pills.—"Take of opium, one part; extract of liquorice, seven parts; Jamaica pepper, two parts. Mix the opium and the extract separately, softened with diluted alkohol, and beat them into a pulp; then add the Jamaica pepper rubbed to powder, and, beating them well, reduce them to a mass." This affords a form under which the exhibition of opium may be concealed from the patient. Two pills contain one grain of opium. In the formula of the London College, the aromatic is omitted, and the proportion of opium increased; so that each pill contains one grain.

499. "*Pilulae rhei compositae.* Compound pills of rhubarb.—"Take of the root of rhubarb, one ounce; socotorine aloes, six drachms; myrrh, half an ounce; oil of peppermint, half a drachm. Beat them into a mass with syrup of orange peel." This is a moderate laxative much employed, especially in dyspeptic affections to alleviate costiveness, and stimulate gently the stomach and intestines. Two pills are taken at bed-time.

500. "*Pilulae scilliticae.* Squill pills.—"Take of the dried root of squill, rubbed to a fine powder, one scruple; gum ammoniac, smaller cardamom seeds, in powder, extract of liquorice, of each one drachm. Beat them with simple syrup into a mass." Under this form squill is often given as an expectorant in asthma and chronic catarrh. Two pills are taken twice a-day.

Sect. XXIV. Trochisci.—Troches.

501. "Troches, or lozenges, consist of powders brought to a solid form by the addition of mucilage. When moist, they form a soft paste which state they are cut into small square or round pieces, and these are hardened by drying. It is a form adapted principally to such medicines as are designed to dissolve slowly in the mouth; and hence they are always rendered pleasant by the addition of a large proportion of sugar. They are seldom active remedies.

502. "*Trochisci carbonatis calcis.* Troches of carbonat of lime.—"Take of prepared carbon

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of lime, four ounces; gum arabic, one ounce; nutmeg, one drachm; refined ſugar, 6 ounces. Rub theſe to powder, and make it into a maſs with water, fit for forming troches." This is a pleaſant form under which carbonat of lime may be given as an antacid. The London College, in their formula, order cinnamon inſtead of nutmeg.

505. "*Trochiſci glycyrrhizae.* Liquorice troches. "Take of extract of liquorice, gum arabic, of each one part; refined ſugar, two parts. Let them be diſſolved in warm water, and ſtrained. Then evaporate the ſolution, with a gentle heat, into a maſs, which form into troches." Theſe, from their demulcent quality, may be uſed to allay coughing, in catarrh; but the ſimple extract of liquorice is equally effectual, and they are ſeldom ever uſed.

506. "*Trochiſci glycyrrhizae cum opio.* Liquorice troches with opium.—"Take of opium, two drachms; tincture of tolu balſam, half an ounce; ſimple ſyrup, eight ounces; extract of liquorice, diſſolved with warm water, gum arabic, in powder, of each five ounces. Firſt, rub the opium with the tincture; then add gradually the ſyrup and the extract; afterwards ſprinkle in the powder of gum arabic; and, laſtly, dry the maſs, that may be formed into troches, each weighing ten grains." Theſe troches are very effectual in relieving the tickling cough frequently attending catarrh. The opium is the active ingredient; the others cover its taſte and flavour, and render the compoſition pleaſant, adding at the ſame time a demulcent quality. One drachm, or ſix troches, contain one grain of opium; and from 6 to 12 may be taken in 24 hours.

507. "*Trochiſci gummoſi.* Gum troches.—"Take of gum arabic, four parts; ſtarch, one part; refined ſugar, twelve parts. Theſe being powdered, are to be formed into a maſs, with water, fit for forming troches." This compoſition is deſigned as a demulcent, but is not in gum arabic, when pure, anſwering the ſame purpoſe equally well.

508. "*Trochiſci nitratis potaſſae.* "Troches of nitrat of potaſh.—"Take of nitrat of potaſh, one part; refined ſugar, three parts. Beat them to powder, and, with mucilage of gum tragacanth, form them into a maſs proper for forming troches." Under this form, nitrat of potaſh is ſometimes uſed as a refrigerant in angina tonſillaris, and to allay the ſenſe of heat attending ſalivation.

509. "*Trochiſci amyli.* Starch troches. Pharm. Lond.—"Take of ſtarch, one ounce and a half; orris powder, ſix drachms; florentine orris, half an ounce; refined ſugar, one pound and a half. Rub them to powder, and, with mucilage of tragacanth, form troches. They may be made without the orris." Theſe troches may exert ſome demulcent power in catarrh; but they are little uſed.

510. "*Trochiſci magneſiae.* Magneſia troches. Pharm. Lond.—"Take of burnt magneſia, four ounces; refined ſugar, two ounces; ginger, in powder, one ſcruple. Rub them together, and, adding mucilage of gum arabic, form them into troches." This is a pleaſant form for giving magneſia as an antacid.

509. "*Trochiſci ſulphuris.* Sulphur troches.—Pharm. Lond.—"Take of waſhed flowers of ſulphur, two ounces; refined ſugar, four ounces; mucilage of quince ſeeds, *q. ſ.* Rub them together, and form troches." This is an agreeable form for the exhibition of ſulphur.

Sect. XXV. Linimenta, Unguenta, *et* Cerata.—Liniments, Ointments, *and* Cerates.

510. "These are ſimilar forms, conſiſting of unctuous matters, and differing merely in the degree of conſiſtence. A liniment is of the conſiſtence of thin honey; an ointment is firmer; and a cerate ſtill harder. Oil or lard is their common baſis; the due conſiſtence is given by wax or ſpermaceti, and to the compoſition may be added any ſubſtance which is to be uſed under this form. The following general directions are given in the Edinburgh Pharmacopœia for their preparation: "In making theſe compoſitions, fat and reſinous ſubſtances are to be melted with a gentle heat, ſtirring them conſtantly, ſprinkling in, at the ſame time, dry ingredients, if there are any, in fine powder, until the mixture, by cooling, become ſtiff."

511. "*Linimentum ſimplex.* Simple liniment.—"Take of olive oil, four parts; white wax, one part."

512. "*Unguentum ſimplex.* Simple ointment.—"Take of olive oil, five parts; white wax, two parts."

513. "*Ceratum ſimplex.* Simple cerate.—"Take of olive oil, ſix parts; white wax, three parts; ſpermaceti, one part." Theſe compoſitions differ merely in conſiſtence. They are applied ſpread on linen, as uſual dreſſings to ſlight wounds and excoriations.

514. "*Unguentum adipis ſuillae.* Ointment of hog's lard. Pharm. Lond.—"Take of prepared hogs lard, two pounds; roſe water, three ounces. Beat the lard with the roſe water until they are mixed; then liquefy with a gentle heat, and put it aſide, that the water may ſubſide. Afterwards pour off the ointment, ſtirring it conſtantly until it has cooled." This is ſimilar to the preceding, and is uſed for the ſame purpoſes. It is perhaps more liable to become rancid.

515. "*Unguentum reſinoſum.* Reſinous ointment.—"Take of hogs lard, eight parts; white reſin, five parts; yellow wax, two parts." This is more ſtimulating than the preceding, and is uſed as a dreſſing where the object is to promote ſuppuration.

516. "*Unguentum pulveris meloes veſicatorii: olim, unguentum epiſpaſticum fortius.* Ointment of the powder of cantharides.—"Take of reſinous ointment, 7 parts; powder of cantharides, one part." This is the ointment commonly employed to eſtabliſh a purulent diſcharge, or form an iſſue in the part to which a bliſter has been applied; which it does from the acrid and ſtimulating quality of the cantharides.

517. "*Unguentum infuſi meloes veſicatorii: olim, unguentum epiſpaſticum mitius.* Ointment of infu-

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son of cantharides.—"Take of cantharides, white resin, yellow wax, of each one part; Venice turpentine, hogs lard, of each two parts; boiling water, four parts. Macerate the cantharides in the water for a night, and strain the liquor, pressing it strongly; having added the lard, boil the liquor till the water is evaporated; then add the wax and resin. These being melted and removed from the fire, add the turpentine." The ointment with the powder of cantharides sometimes occasions too much pain and irritation. In such cases, the ointment from the infusion of cantharides being milder, is employed, and is still sufficiently stimulating to keep up the purulent discharge.

518. "*Unguentum sub-acetitis cupri; olim, unguentum aeruginis.* Ointment of sub-acetite of copper, or verdigris.—"Take of resinous ointment, fifteen parts; sub-acetite of copper, one part." This ointment is used as an escharotic, applied to foul ulcers. It in general requires to be mixed with an additional proportion of resinous or simple ointment.

519. "*Unguentum hydrargyri: vulgo, unguentum caeruleum.* Ointment of quicksilver.—"Take of quicksilver, mutton suet, of each one part; hogs lard, three parts. Rub them carefully in a mortar, until the globules of quicksilver disappear. It may be made also with a double or triple proportion of quicksilver."

520. "*Unguentum hydrargyri fortius.* Stronger ointment of quicksilver. Pharm. Lond.—"Take of purified quicksilver, two pounds; prepared hogs lard, 23 ounces; prepared tallow, 1 ounce. Rub first the quicksilver with the tallow and a little lard, until the globules disappear; then add the remaining lard, so as to form an ointment."

521. "*Unguentum hydrargyri mitius.* Milder ointment of quicksilver. Pharm. Lond.—"Take of the stronger ointment of quicksilver, one part; prepared hogs lard, two parts. Mix them."

522. "Mercurial ointment is the form under which mercury is introduced into the system by external friction. One drachm of the *strong ointment*, (that containing equal parts of mercury and lard), is introduced by friction in the evening, and frequently also in the morning, until the system is affected. The weaker ointments ought not to be employed, as they merely give unnecessary trouble, by the necessity of rubbing in so much lard.

523. "*Unguentum oxidi hydrargyri cinerei.* Ointment of grey oxyd of quicksilver.—"Take of grey oxyd of quicksilver, one part; hogs lard, three parts." This is designed as a substitute for the mercurial ointment; and, as the quicksilver is fully oxydated, it has been supposed that it will prove more active.

524. "*Unguentum oxidi hydrargyri rubri.* Ointment of red oxyd of quicksilver.—"Take of red oxyd of quicksilver by nitric acid, one part; hogs lard, 8 parts." This is applied as a mild escharotic to remove the diseased surface of ulcers, and as a stimulant to promote suppuration.

525. "*Unguentum calcis hydrargyri albae.* Ointment of white calx of quicksilver. Pharm. Lond.—"Take of white oxyd of quicksilver, one drachm; ointment of hogs lard, one ounce and a half. Mix them so as to form an ointment." This ointment is sometimes used as an application in psora, and other cutaneous affections.

526. "*Unguentum nitratis hydrargyri fortius, vulgo, unguentum citrinum.* Stronger ointment of nitrat of quicksilver.—"Take of purified quicksilver, one part; nitrous acid, two parts; hogs lard, twelve parts. Digest the quicksilver with the nitrous acid, in a sand-bath, until a solution is obtained, which, while it is hot, is to be mixed with the hogs lard melted and beginning to cool. Beat the mixture thoroughly in a glass mortar, so as to form an ointment." This is an excellent application to certain cutaneous affections, a small quantity being rubbed on the part.

527. "*Unguentum nitratis hydrargyri mitius.* Milder ointment of nitrat of quicksilver.—"This is made in the same manner as the preceding with a triple proportion of lard." It is of course a much milder application, and is designed to be also of a softer consistence; but, to obtain this latter convenience, it is better to reduce the strong ointment with the requisite proportion of lard.

528. "*Unguentum acidi nitrosi.* Ointment of nitrous acid.—"Take of hogs lard, one pound; nitrous acid, six drachms. Mix the acid gradually, with the melted lard, and beat the mixture thoroughly while it cools." In this preparation part of the acid is decomposed, and part is combined with the lard. It is designed as an application in cutaneous affections, and is similar in its effects to the preceding.

529. "*Unguentum oxidi plumbi albi.* Ointment of white oxyd of lead.—"Take of simple ointment, five parts; oxyd of lead, one part." This has been used principally as an application to burns and superficial inflammation.

530. "*Unguentum acetitis plumbi; vulgo, unguentum saturninum.* Ointment of acetite of lead.—"Take of simple ointment, 20 parts; acetite of lead, one part." This ointment is applied to the same purposes as the preceding, and is more frequently used.

531. "*Ceratum lithargyri acetati compositum.* Compound cerate of acetated litharge. Pharm. Lond.—"Take of water of acetated litharge, four ounces and a half; yellow wax, four ounces; olive oil, nine ounces; camphor, half a drachm. Rub the camphor with a little of the oil. Melt the wax with the remaining oil, and as soon as the mixture begins to become thick, pour on gradually the water of acetated litharge and stir constantly until the mixture has cooled; then mix with it the camphor rubbed with the oil." This ointment, usually named *Goulard's Cerate*, differs little from the preceding, and is applied to similar uses.

532. "*Ceratum carbonatis zinci impuri: olim, cerutum lapidis calaminaris.* Cerate of impure carbonat of zinc.—"Take of simple cerate, 8 parts; prepared impure carbonat of zinc, 1 part." This is the common healing cerate applied to slight wounds, excoriations, &c.; and as a dressing to ulcers. The carbonat of zinc seems to give it merely a stiffer consistence.

533. "*Unguentum oxidi zinci impuri; olim, gum-*

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...ntum tutiae. Ointment of tutty.—"Take of ...mple liniment, five parts; prepared impure oxyd ... zinc, one part." This has been uſed principally as an application in chronic ophthalmia.

554. "*Unguentum oxidi zinci.* Ointment of ...yd of zinc.—"Take of ſimple liniment, ſix ...ts; oxyd of zinc, one part." Ointment of ...yd of zinc is ſometimes uſed as a dreſſing to ...ers, and ſometimes as an application in ophthalmia.

555. "*Unguentum picis.* Ointment of tar.—"Take of tar, five parts; yellow wax, two parts." ...is ſtimulating ointment is ſometimes applied ...on ulcers, and has been alſo uſed with advan... in tinea capitis.

556. "*Unguentum ſulphuris.* Ointment of ſul...r.—"Take of hogs lard, four parts; ſublim... ſulphur, one part. To each pound of this oint...t, add of eſſential oil of lemon, or eſſential ...il of lavender, half a drachm." Under this form, ...ur is applied, by friction, as a remedy in ...

557. "*Unguentum elemi compoſitum.* Compound ...ent of elemi. Pharm. Lond.—"Take of e... one pound; common turpentine, ten ...ces; prepared ſuet, two pounds; olive oil, ...ounces. Melt the elemi with the ſuet, and ...g removed it from the fire, mix it immedi... with the turpentine and oil; then ſtrain the ...ure." This ointment is moderately ſtimu..., ſomewhat ſimilar to the reſinous oint...

558. "*Unguentum hellebori albi.* Ointment of ...hellebore. Pharm. Lond.—"Take of white ...ore, rubbed to powder, one ounce; oint... of hogs lard, four ounces; eſſence of le... half a ſcruple. Mix them, ſo as to form an ...ent." Hellebore is uſed, under this form, ... application to pſora. It is ſometimes effec... and is leſs diſagreeable than the ſulphur ...ent.

559. "*Unguentum ſambuci.* Ointment of elder. ...*Lond.*—"Take of the flowers of elder, ... prepared mutton ſuet, 3 lb.; olive oil, 1 lb. ...the flowers of elder with the ſuet and the ...oil until they become friable; then preſs ...e fluid, and ſtrain it." The elder flowers ...municate nothing to the unctuous matter, ...a rich green colour.

560. "*Ceratum ſaponis.* Cerate of ſoap *Pharm.* ...—"Take of ſoap, 8 oz.; yellow wax, 10 ... litharge, in powder, 1 lb.; olive oil, 1 lb.; ...ar, one gallon. Boil the vinegar with the li... on a gentle fire, ſtirring conſtantly until ...ixture become uniform and thick; then mix ...the other ingredients, ſo as to form a ce... This compoſition muſt derive its efficacy ...partly from the acetite of lead, formed by the ...ing of the vinegar on the litharge.

SECT. XXVI. EMPLASTRA.—PLASTERS.

561. "PLASTERS differ from ointments in their ...a firmer conſiſtence, which is ſuch that they ...not adhere to the hand, and require to be ...ted in order to be ſpread. They owe this con...ence, in general, to a larger proportion of ...x, or ſometimes to the addition of certain me...ic oxyds, particularly thoſe of lead, which u...nite chemically with the unctuous matter. The ſame rules are to be obſerved in their preparation, as in that of ointments.

562. "*Emplaſtrum ſimplex: olim, emplaſtrum cereum.* Simple plaſter.—"Take of yellow wax, three parts; mutton ſuet and reſin, of each two parts." The principal uſe of this plaſter is as a dreſſing, when ſpread thin on linen, to the part to which a bliſter has been applied.

563. "*Emplaſtrum oxidi plumbi ſemi-vitrei: olim, emplaſtrum commune.*—"Take of the ſemi-vitreous oxyd of lead, one part; olive oil, two parts. Having added water, boil them, ſtirring conſtantly, until the oil and the oxyd unite into a plaſter." This is a chemical combination of the oil with the oxyd of lead, and is of a conſiſtence ſufficiently hard to form a plaſter. It is uſed, ſpread on leather or linen, as an application to excoriations, or ſlight wounds.

564. "*Emplaſtrum reſinoſum: olim, emplaſtrum adhaeſivum.* Reſinous plaſter.—"Take of plaſter of ſemi-vitreous oxyd of lead, five parts; reſin, one part." The plaſter of litharge is rendered more adheſive, and ſomewhat ſtimulating, by this intermixture of reſin.

565. "*Emplaſtrum oxidi ferri rubri: olim, emplaſtrum roborans.* Strengthening plaſter. "Take of plaſter of ſemi-vitreous oxyd of lead, 24 parts; reſin, ſix parts; yellow wax, olive oil, of each three parts; red oxyd of iron, 8 parts. Rub the red oxyd of iron with the oil, and add it to the other ingredients melted." This, ſpread on leather, is ſometimes uſed as an application in ſlight caſes of lumbago, and ſeems to prove uſeful, merely by affording a mechanical ſupport.

566. "*Emplaſtrum aſſae foetidae.* Aſſafœtida plaſter.—"Take of plaſter of ſemi-vitreous oxyd of lead, aſſafœtida, galbanum, yellow wax, of each one part." This plaſter is ſomtimes applied to the breaſt or ſide, as a remedy in hyſteric affections.

567. "*Emplaſtrum gummoſum.* Gum plaſter.—"Take of plaſter of ſemi-vitreous oxyd of lead, 8 parts; ammoniac, galbanum, yellow wax, of each one part." This plaſter has been uſed as an application to indolent tumours, and ſometimes to promote ſuppuration.

568. "*Emplaſtrum hydrargyri.* Quickſilver plaſter.—"Take olive oil, reſin, of each one part; quickſilver, three parts; plaſter of ſemi-vitreous oxyd of lead, ſix parts. Rub the quickſilver with the oil and reſin melted together, and then cooled, until the globules diſappear; then add, gradually, the plaſter of ſemi-vitreous oxyd of lead, melted, and mix the whole carefully." This plaſter is applied as a diſcutient to indolent tumours.

569. "*Emplaſtrum ſaponaceum.* Soap plaſter.—"Take of plaſter of ſemi-vitreous oxyd of lead, 4 parts; gum plaſter, two parts; ſoap ſliced, one part. Mix the ſoap with the plaſters melted together; then boil a little, ſo as to form a plaſter." This is much inferior to the mercurial plaſter, and is ſcarcely ever uſed.

570. "*Emplaſtrum meloes veſicatorii: olim, emplaſtrum veſicatorium.* Plaſter of cantharides. *Bliſtering plaſter.*—"Take of mutton ſuet, yellow wax, reſin, cantharides, of each equal weights. Mix the cantharides, rubbed into a fine powder, with

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with the other ingredients, melted together, and removed from the fire." This is the plaster usually employed to raise a blister. It is of a softer consistence than the other plasters, that it may admit of being spread without the assistance of heat, which would impair the acrid quality of the cantharides. It requires to be applied 12 hours to produce a perfect blister: it is then removed; the vesicle is cut, and the inflamed surface dressed with simple cerate or plaster.

551. "*Emplastrum melœos vesicatorii compositum.* Compound plaster of cantharides.—"Take of Burgundy pitch, turpentine, cantharides, of each 12 parts; yellow wax four parts; sub-acetite of copper, two parts; mustard seed, black pepper, of each one part. To the Burgundy pitch and wax melted, add the turpentine. When this is melted, and while the fluid is still warm, add the other ingredients mixed and rubbed to a fine powder, stirring constantly, so as to form a plaster." It occasionally happens, that the common plaster of cantharides is insufficient to excite a blister, even when its surface has been sprinkled over with powdered cantharides. In such cases, or even in others, where it is necessary that a blister should be quickly raised, this powerful composition may be employed. Its operation is accompanied with a very pungent sensation of heat.

552. "*Emplastrum ammoniaci cum hydrargyro.* Plaster of Ammoniac with quicksilver. *Pharm. Lond.*—"Take of strained ammoniac, 1 lb. Purified quicksilver, 3 oz.; sulphurated oil, one drachm, or *q. s.* Rub the quicksilver with the sulphurated oil, until the globules disappear; then add gradually the melted ammoniac, and mix them." This is similar in its powers to the simple mercurial plaster, and is applied to the same purposes.

553. "*Emplastrum cumini.* Cumin plaster. *Pharm. Lond.*—"Take of cumin, caraway, bay berries, of each 3 oz.; Burgundy pitch, 3 lb.; yellow wax, 3 oz. With the pitch and wax melted, mix the other ingredients rubbed to powder." This has been applied to the region of the stomach as a moderate stimulant with no great effect.

554. "*Emplastrum ladani compositum.* Compound plaster of ladanum. *Pharm. Lond.*—"Take of ladanum, 3 oz.; frankincense, one ounce; cinnamon in powder, expressed oil of nutmeg, of each half an ounce; oil of spearmint, one drachm. To the melted frankincense add first the ladanum softened by heat, then the expressed oil of nutmeg; afterwards mix these and the cinnamon with the oil of spearmint, and beat them in a warm mortar. Keep the plaster in a close vessel." This plaster has been applied, like the former, to relieve a nausea and flatulence, and is undoubtedly a more powerful stimulant.

555. "*Emplastrum lithargyri compositum.* Compound litharge plaster. *Pharm. Lond.*—"Take of litharge plaster, 3 lb.; strained galbanum, 8 oz. Mix the frankincense, rubbed to powder, with the galbanum and turpentine melted, and add the litharge plaster, melted with a slow fire." This is similar in its qualities to the gum plaster, and is used, like it, as a discutient, and to promote suppuration.

556. "*Emplastrum picis Burgundicæ compositum.* Compound Burgundy pitch plaster. *Pharm. Lond.*—"Take of Burgundy pitch, 2 lb.; lacanum 11 b.; yellow resin, yellow wax, of each 4 oz. expressed oil of nutmeg, 1 oz. To the pitch, resin and wax, melted together, add first the lacanum, then the oil of nut-meg." Burgundy pitch with the addition of a little wax to give it more tenacity, is in common use as a rubefacient, under the form of plaster. The addition of the other ingredients of this compound plaster, to render it rather more stimulating.

557. "*Emplastrum thuris compositum.* Compound frankincense plaster. *Pharm. Lond.*—"Take of frankincense, half a pound; dragons blood, 2 oz.; litharge plaster, 2 lb. To the litharge plaster, add the others rubbed to powder." This similar to the plaster of red oxyd of iron of the Pharmacopœia, and is applied to the same

Sect. XXVII. Cataplasmata. Cataplas

558. "Cataplasma aluminis. Alum plasm. *Pharm. Lond.*—"Take the whites of eggs: agitate them with a piece of alum, coagulum is formed." This is sometimes ployed as an astringent application in some of ophthalmia.

559. "*Cataplasma cumini.* Cumin catap *Pharm. Lond.*—"Take of cumin, 1 lb.; bay ries, dried scordium, Virginian snake root, 3 oz.; cloves, 1 oz. Rub them all together powder; and having added three times weight of honey, form a cataplasm."—This been used as a stimulating cataplasm to shewing a disposition to gangrene.

560. "*Cataplasma sinapeos.* Mustard cata *Pharm. Lond.*—"Take of mustard in po crumb of bread, of each half a pound; v warm, as much as is sufficient. Mix so make a cataplasm." This is the common ism which is applied with advantage, as a p ful stimulant, to the soles of the feet, in where there is a determination to the head in comatose affections."

561. Having thus laid before our reader substance of Mr Murray's ingenious Treat Pharmacy, we shall conclude with a few e from his two *appendixes*; wherein he treats Gases, Electricity, and Galvanism; a Medical Prescriptions.

APPENDIX.

Sect. I. *Of the* Gases *employed as* Remed

562. "Substances existing in the aërial fo (says our author,) "might *a priori* be supp capable of producing important effects on th tem, as by respiration they are brought to a rectly on the mass of blood, and induce chemical changes. And they actually occ immediate and striking alterations in the tions of life.

563. "Though the expectations that we one time formed, with regard to their medi efficacy, have not been realized, and the them has now been nearly relinquished; yet they are capable of producing important cha in the state of the functions, and of the gen syst

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ystem, and since the proposition must be ad-
mitted, that every substance possessed of such
powers may be capable of acting as a powerful
remedy, they ought not to be entirely lost sight of,
or be discarded from the materia medica. In the
animal kingdom, we have actually the two extremes
of stimulant and sedative power.

564. "The modes of preparing these gases are,
in a great measure, peculiar to each of them.
The manner of administering them is nearly the
same. They may be breathed from a jar placed
in water; but this is difficult, from the effort re-
quired to sustain the column of water within the
jar. This may be partly remedied, by poising
the jar in water, or, more completely, by breath-
ing from the gazometer. But the easiest mode is,
for the patient to breathe the gas from a silk bag,
to which a tube with a stop-cock is affixed. In
breathing and expiring the gas, the nostrils require
to be closed.

565. "The gases that have been employed in
practice, may be considered under the divisions
of those which *excite*, and those which *depress* the
powers of life. To the former order belong,

Gas oxygenium. Oxygen gas.

Gas oxydum nitrosum. Nitrous oxyd gas.

566. "*Oxygen gas* is procured from black oxyd
of manganese by heat." (See OXYGEN, § 2.)
For medicinal purposes the gas is transmitted
through water, and is allowed to stand over it for
some hours before it is breathed.

567. "As oxygen is so immediately necessary
to the support of life, it might be supposed, that
it would be of use in a more pure and concentrated
state than that in which we breathe it in at-
mospheric air, it would prove a salutary agent of
considerable power. To this interference,
however, independent of any experience, an objec-
tion occurs, founded on some experiments made
by Priestley, and repeated by Davy, which prove,
that when animals are supplied with pure oxy-
gen, or with oxygen mixed with a portion of at-
mospheric air, still less of it is consumed than in
the process of respiration. But though this fact should
be admitted, the greater activity of pure oxygen
on the system is undoubted. It is shewn by
the changes which result from its inspiration. and
more forcibly by the fact ascertained by Priest-
ley, Lavoisier, and Davy, that animals confined
in vessels with an increased proportion of oxygen,
die before it is exhausted, and even while the air
which they breathe contains more oxygen than
common air, and can enable another animal to

568. "Oxygen, when respired, acts partly by
communicating a stimulating quality to the blood,
by which the left side of the heart and the arterial
system are excited to action. The phenomena
of asphyxia from its abstraction, prove that it
likewise exerts some other operation more im-
mediately subservient to the functions of life.

569. "The diseases in which oxygen gas has
been administered, are principally those of chro-
nic debility, chlorosis, asthma, scrofula, dropsy,
gout, and some cutaneous affections. It re-
quires to be diluted with from 10 to 20 or more
parts of atmospheric air, increasing the propor-
tion of oxygen according to the effects produced.
From one to two quarts of oxygen are given, by
breathing it in its diluted state, at intervals, in the
course of the day. It generally increases the force
and velocity of the pulse.

570. "*Nitrous oxyd gas.* This gas, a compound
of oxygen and azot, in the proportion of 37 of
the former to 63 of the latter, is most economi-
cally obtained, and in greatest purity, from the
decomposition of nitrat of ammonia by heat. When
this salt is exposed to a temperature, about 400°
Fahrenheit's scale, its principles re-act on each o-
ther, and enter into new combinations. The hy-
drogen of the ammonia attracts part of the oxy-
gen of the nitric acid to form water; and the re-
maining oxygen combining with the azot both of
the acid and of the ammonia, forms this particu-
lar compound, nitrous oxyd, which is disengaged
in the gaseous form. It requires to stand some
hours to deposit a small portion of saline matter,
before it is fit to be breathed.

571. "The effects of nitrous oxyd gas on the
system, when it is respired, are scarcely analogous
to those of any other agent. The excitement
which it produces is extended to the functions of
body and mind with more rapidity and force than
that arising from the action of the most powerful
stimulants. It is accompanied with sensations as
various as they are peculiar; and, what still more
marks the singularity of its operation, this high
excitement of the functions of life and exhilara-
tion of mind are not followed by proportional
langour or debility; the state of the system gra-
dually returns to the healthy standard, without
any apparent waste of power. A substance ca-
pable of acting in such a manner, we might sup-
pose, would prove one of our most valuable reme-
dies. The transient nature of its operation must
undoubtedly limit its medicinal efficacy; but
still, in diseases of extreme debility, we seem justi-
fied in expecting from its administration the most
beneficial effects. It has not, however, been very
extensively employed. In paralysis it has been
used with advantage. In diseases of increased sen-
sibility, it may prove hurtful; and when breath-
ed by delicate females, it has, in more than one
instance, induced hysteric affections. The dose
which is requisite to produce its peculiar effects
varies from four to nine quarts, which may be
breathed pure or diluted with an equal part of
atmospheric air. It cannot be breathed undilut-
ed for more than four minutes and a half, insen-
sibility being induced.

572. "Nothing satisfactory can be said as to its
mode of action, since we know so little of the con-
nection which subsists between the phenomena of
life and the chemical changes which go on in the
system. We can only mark the dissimilarity of its
operation to that of any other physical agent.

573. "Under the second sub-division of the
Gases,—those which depress the functions of life,
might probably be placed all the substances exist-
ing in the aerial form, oxygen and nitrous oxyd
excepted. The following are those which have
been medicinally employed:

"*Gas hydrogenium.* Hydrogen gas.

"*Gas azoticum.* Azotic gas.

"*Gas*

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"*Gas acidum carbonicum.* Carbonic acid gas.

"*Gas hydrogenium carbonatum.* Carbonated hydrogen gas.

574. "Hydrogen gas, when it is to be breathed, is to be procured by paſſing water in vapour over pure iron heated to the temperature of ignition. The iron attracts the oxygen of the water, and the hydrogen aſſumes the aerial form." (See CHEMISTRY, *Index.*) "Hydrogen gas received into the lungs does not appear to exert any poſitive deleterious power: all its effects ſeem referable merely to the excluſion of oxygen. In a pure ſtate, if the lungs have been previouſly emptied as much as poſſible of atmoſpheric air, it cannot be breathed above three quarters of a minute. It quickly occaſions a giddineſs and ſenſe of ſuffocation; the countenance becomes livid, and the pulſe ſinks rapidly; but, when diluted with two thirds or an equal part of atmoſpheric air, it can be ſafely breathed; nor does it appear to produce any very important effect. It occaſions ſome diminution of muſcular power and ſenſibility, and a reduction of the force of the circulation. It has been uſed in catarrh, hæmoptyſis, and phthiſis, but its powers ſeem merely thoſe of a palliative.

575. "Azot.—What has been ſaid of hydrogen applies likewiſe to azot. It ſeems to exert no poſitive action on the ſyſtem, but to produce its effects by excluding oxygen. As it is not ſo eaſily obtained pure as hydrogen, it has been leſs employed.

576. "Carbonic acid gas.—To obtain this gas in a proper ſtate of purity for breathing, carbonat of lime (chalk or white marble), is expoſed to a ſtrong red heat in an iron tube. The carbonic acid which is diſengaged is collected over water, as it is not immediately largely abſorbed by that fluid." See CHEMISTRY, *Index.*

577. "This acid gas, when it is inſpired, proves more ſpeedily fatal than azot or hydrogen. It appears to excite ſpaſmodic contraction of the epiglottis, ſo as very ſpeedily to induce ſuffocation; and it has this effect, even when diluted with nearly an equal part of atmoſpheric air. The reſpiration of carbonic acid gas was employed at an earlier period than that of the other gaſes. It was celebrated as a remedy in phthiſis. In the many caſes however in which it has been tried, though it might leſſen the expectoration, diminiſh the hectic fever, and act as an anodyne, there is little evidence of its having ultimately effected a cure. It is given diluted with four or ſix parts of atmoſpheric air.

578. "Carbonic acid has likewiſe been employed as a local application to cancer and painful ulceration, and has at leaſt been ſerviceable as a palliative. A ſtream of it is directed on the part by means of a flexible tube. A cataplaſm, formed of ſubſtances in a ſtate of fermentation has, in ſome meaſure, a ſimilar effect.

579. "Carbonated hydrogen gas.—The gas which has been uſed in medicine under this name, is obtained by paſſing the vapour of water over charcoal at the temperature of ignition, in an iron tube. The oxygen of the water unites with one part of the charcoal, forming carbonic acid; the hydrogen combines with another part of it, and forms this ſpecies of carbonated hydrogen. The carbonic acid is abſtracted by agitating the gas in lime-water. This is the moſt active of thoſe gaſes which operate by depreſſing the functions of life, and is perhaps the moſt powerful agent of this kind. Even when largely diluted with atmoſpheric air, it occaſions immediate vertigo, ſickneſs, diminution of the force and velocity of the pulſe, reduction of muſcular vigour, and in general every ſymptom of diminiſhed power. It can ſcarcely be breathed in an undiluted ſtate. Mr Davy found that at the third inſpiration, total inſenſibility was induced, and ſymptoms of extreme debility continued for a conſiderable time.

580. "As a medicinal agent, it is the gas for which the evidence in favour of its efficacy is greateſt. In phthiſis, in many caſes, it unequivocally relieved the ſymptoms, and at leaſt arreſted the progreſs of the diſeaſe. Much caution is required with regard to the doſe. At firſt, one pint of carbonated hydrogen gas, diluted with two parts of atmoſpheric air, may be reſpired; the quantity may be ſlowly increaſed, and with the dilution, taking care to avoid the production of great vertigo or muſcular debility. Not more than from two to four quarts can be taken in a day, even when the patient has been accuſtomed to it for ſome time. It is always more powerful when recently prepared, than when it has been kept for ſome days.

SECT. II. *Of* ELECTRICITY.

581. "The medicinal operation of electricity may be referred to its ſtimulant power. It produces forcible contractions in the irritable fibre, excites therefore to action, if duly applied; and when in exceſs, immediately exhauſts irritability. It poſſeſſes the important advantages of being eaſily brought to act locally, and of being confined to the part to which it is applied, while it can alſo be employed in every degree of force.

582. "Electricity is applied to the body in the form of a ſtream or continued diſcharge of the fluid, under that of ſparks, and under that of ſhock; the firſt being the moſt gentle, the ſecond being more active, and the laſt being much more powerful than either of the others. The ſtream is applied by connecting a pointed piece of wood or a metal wire, with the prime conductor of the electrical machine, and holding it by a glaſs handle one or two inches diſtant from the part to which it is to be directed. A very moderate ſtimulant operation is thus excited, which is better adapted to ſome particular caſes than the more powerful ſpark or ſhock. The ſpark is drawn by placing the patient on the inſulated ſtool connected with the prime conductor, and, while the machine is worked, bringing a metal knob within a ſhort diſtance of the part from which the ſpark is to be taken. A ſenſation ſomewhat pungent is excited, and ſlight muſcular contractions may be produced, theſe effects being greater or leſs, according to the diſtance at which the knob is held, if the machine be ſufficiently powerful. The ſhock is given by diſcharging the Leyden phial, making the part of the body through which it is intended to be tranſmitted, part of the circuit. The ſenſation it excites is unpleaſant, and the muſcular contraction conſiderable, if the ſhock is moderately ſtrong.

583. "

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583. "At the first introduction of electricity as a remedy, it was very highly celebrated for its efficacy in a number of diseases;" (See ELECTRICITY, *Part* IV.) "Its use is now confined to a few. In paralysis it is very generally had recourse to, to excite muscular contraction, and perhaps with some advantage. It is usually applied under the form of sparks, the application of it requiring to be continued daily for a considerable time. Sometimes moderate shocks are also employed; but the propriety of this practice is somewhat doubtful. In amenorrhœa, as the stimulant operation can be excited, in some measure, in the vessels which are affected, advantage may be derived from electricity; and it is occasionally used, both under the form of sparks taken from the pelvis, and that of moderate shocks transmitted through it. Ophthalmia, and some other varieties of inflammation, have been removed by the electric stream; it has sometimes succeeded in discussing tumours, and relieving pain. The general rule for the medical employment of electricity, is to apply it at first under the milder forms, and gradually to these, if necessary, to the more powerful.

SECT. III. *Of* GALVANISM.

584. "THE peculiar power which is generated when two metals moistened are in contact, at first called *Animal Electricity*, since *Galvanism*, has very recently applied as a remedy in various morbid affections. Its effects on the animal system are by no means warrant this application. Its activity is evinced by its exciting strong sensations in sensible parts, and powerful contractions in parts endowed with irritability." See ELECTRICITY, *Part* V.

585. "Between galvanism and electricity there are many points of resemblance, that they have been considered as ultimately the same power, or as the same subtile matter in different states. Whether this opinion be just or not, the effects of galvanism on living matter are different from those of electricity. The sensation which the former excites, though somewhat analogous to that produced by the latter, is still dissimilar; the action of galvanism is more extended, both to the nervous and muscular systems, than that of electricity, which is more local in its action. The galvanic action produces sensations and contractions in parts, which, from disease, are not sensible to the usual impressions; and the stimulant power which both exert, appears in galvanism, to be more in proportion to its intensity than in electricity; or the sensations and muscular contractions which the galvanic discharge excites, are more disproportioned to its power of producing the usual phenomena.

586. "The diseases in which galvanism has hitherto been employed, are principally those of the same kind. In paralysis, it has been affirmed to have restored the capability of muscular contraction, and consequently the power of motion. In chorea, tetanus, and some other spasmodic affections, have been related, in which perfect cures were accomplished by its application. It has, in several instances, to have relieved pain, particularly that species of it arising from torpor of the auditory nerve; and it has been successful in discussing indolent tumours.

587. "Galvanism is applied by connecting two metallic wires with the two extremities of a galvanic battery, and bringing them in contact with the part affected, so that it shall form part of the circuit of the galvanic discharge: the one wire is kept in contact with the part it touches; the other is alternately applied for a moment and removed. If the skin is moistened, the galvanic influence is communicated more readily and effectually; and still more so if a small piece of metallic leaf be laid on the parts to which the wires are applied. Sometimes even the cuticle has been previously removed by a blister, but the application of the galvanism is then attended with pain."

SECT. IV. *Of* MEDICAL PRESCRIPTIONS.

588. "THE principal objects designed to be attained by the composition of medicines, are, to communicate an agreeable taste or flavour; to give a convenient form; to correct the operation of the principal medicine, or obviate some unpleasant symptom it is liable to produce; to promote its action, by the additional article exerting one of a similar kind; to obtain the joint operation of two remedies, having different powers; or to alter their usual effects, by the power which one may have of modifying the action of another.

589. "A prescription has been usually divided into four parts, which compose it,—the *basis*, or principal article; the *adjuvans*, or that designed to promote the action of the former; the *corrigens*, or that which is intended to correct its operation, or obviate any unpleasant symptom which it may be apt to produce; and the *constituens*, or that which gives to other ingredients consistence or form. These are not necessarily present in every formula; nor is the division of much importance, except as perhaps affording the best principle for regulating the order in which the ingredients of a prescription should be enumerated.

590. "The following are the principal circumstances to be attended to in forming a prescription.

591. "*1st*, Simplicity should be attained, as far as is consistent with the object of the prescription. Nothing ought to enter into the composition which does not add to its virtue, render it less ungrateful, give it a convenient form, or which is not necessary to conceal any particular ingredient; and, in general the practice of accumulating a number of articles in one prescription is to be avoided.

592. "*2dly*, Substances, it is evident, ought not to be mixed together, which are capable of entering into chemical combination, or of decomposing each other, unless it be with the view of obtaining the product of the combination, or decomposition, as a remedy.

593. "*3dly*, Those mixtures are also to be avoided, in which one medicine, by its peculiar action on the stomach or general system, modifies and changes the action usually exerted by another, unless where the object is to obtain the effects of that modified operation.

594. "*4thly*, The error of contra-indication is to be guarded against, or those medicines ought not to be combined, the virtues of which are not merely different, but are, in some measure, opposed to each other.

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595. "*Sthly*, The ingredients which are to be mixed, muſt be ſuch as will mix properly together, ſo that the form in which the remedy is deſigned to be exhibited, may be eaſily obtained and preſerved.

596. "*Laſtly*, The form under which a medicine is preſcribed, muſt be adapted to certain circumſtances; principally to the nature of the diſeaſe, the nature of the remedy itſelf, and, as far as may be poſſible, to the taſte of the patient.

597. "The doſes of medicines are not reducible to any general rules, from their general ſimilarity of operation, or any other circumſtance. The principal circumſtances by which they are influenced are, age, ſex, temperament, idioſyncraſy, habit, and diſeaſe.

598. "*Age.*—From infancy to manhood, a larger doſe of any medicine is requiſite to produce its effect, in proportion to the advance in life. From manhood to old age, there is a ſimilar gradation with regard to diminution of doſe, though in a much leſs proportion than that which regulates the increaſe. The following table has been ſuppoſed to ſhew theſe proportions.

599. "TABLE.

"Let the doſe for a perſon of middle age be 1 or 1 drachm.

For one from xiv to xxi years, it

will be - - - -	$\frac{2}{3}$	or 2 ſcruples.
——— vii to xiv, -	$\frac{1}{2}$	or half a dr.
——— iv to vii, -	$\frac{1}{3}$	or 1 ſcruple.
——— of iv years of age,	$\frac{1}{4}$	or 15 grains.
——— iii ——— —	$\frac{1}{6}$	or half a ſcr.
——— ii ——— —	$\frac{1}{8}$	or 8 grains.
——— i ——— —	$\frac{1}{12}$	or 5 grains.

600. "*Sex.*—Women, in general, require ſmaller doſes of any medicine than men, a difference probably owing to their greater ſenſibility from their habits of life.

601. "*Temperament.*—Thoſe of the ſanguine temperament are ſuppoſed to be more affected by medicines, and therefore to require ſmaller doſes than thoſe of the phlegmatic or melancholic; but in what has been ſaid on this ſubject, there is ſo much uncertainty, that little reliance can be placed on it.

602. "*Idioſyncracy.*—This denotes that diſpoſition in individuals to be affected by certain cauſes, in a manner different from the generality of mankind. Such idioſyncraſies are obſerved with regard to medicines, as well as to other agents; and, where they are known, require to be attended to by the preſcriber.

603. "*Habit.*—This has an important influence on the operation of medicines. In general, they loſe ſome of their power by having been long continued. This is particularly the caſe with all ſtrong ſtimulants and narcotics, and is even obſerved, to a certain extent, in ſome of the other claſſes of the materia medica. In a few inſtances, the reverſe has been ſuppoſed to hold true.

604. "*Diſeaſe.*—This has an influence on the doſes of medicines not leſs important; the ſuſceptibility to external impreſſions, and to action, being much varied in morbid affections, and the operations of remedies of courſe being modified by ſuch variations. The ſtate of ſuſceptibility being in general apparent, when it varies much from the healthy ſtandard, the doſes of the medicines adminiſtered are eaſily regulated."

SECT. V. *Of* PHARMACEUTICAL OPERATIONS.

605. We cannot conclude without mentioning that there are a number of PHARMACEUTICAL OPERATIONS, with which the ſtudent of pharmacy ought to be well acquainted. The phænomena, upon which theſe depend, and which it is the object of Pharmaceutic Chemiſtry to inveſtigate, ariſe principally from the exertion of that power, poſſeſſed by the particles of different kinds of matter, by which they tend to unite or combine with each other, and form one homogeneous ſubſtance, in which the particles of either can no longer be diſcovered.

606. The power, whence this combination proceeds, is termed *Chemical Attraction*, or *Affinity*. (See AFFINITY, ATTRACTION, and CHEMISTRY, *Index*.) It is exerted only between *minute particles* of *different* kinds of matter, and between theſe only at inſenſible diſtances. The ſubſtances which it combines never ſeparate ſpontaneouſly; nor are they capable of being ſeparated by any mechanical means; and they form a compound moſt leſs different from thoſe of their component parts. This change of properties from combination is one of the moſt remarkable phænomena, attending chemical attraction.

607. "The Operations of Pharmaceutic Chemiſtry (ſays Mr Murray) are entirely dependent on chemical attraction, or on the action of compounds. They are merely particular arrangements of circumſtances, by which the exertion of the attraction is promoted, and the products of the decompoſitions or decompoſitions, which take place, obtained.

608. "There are ſeveral preliminary operations not directly chemical, but employed either to favour the exertion of chemical attraction, or to facilitate the medicinal operation of the ſubſtance ſubjected. They are thoſe operations, by which bodies are reduced to a ſtate of extreme mechanical diviſion. The principal are PULVERIZATION, or reducing bodies to powder by beating: TRITURATION, in which the ſame effect is obtained by rubbing; and LEVIGATION, in which the powder is reduced to a great degree of fineneſs, from the rubbing being continued longer, and being facilitated by the addition of any fluid, which does not act chemically on the ſubſtance ſubjected to the operation. Theſe are performed in mortars of glaſs, earthen ware, or metal. As the particles into which the ſubſtance is reduced by all theſe means muſt neceſſarily be of unequal ſize, the coarſer are ſeparated from the finer by SIFTING, or paſſing the powder over a ſieve. WASHING or ELUTRATION is an operation in which the ſame end is attained."

609. "Of the Chemical Operations, the most important are thoſe, by which that fluidity is obtained, which is in general requiſite for the action of Chemical Attraction. SOLUTION is the principal operation of this kind." See that article and CHEMISTRY, *Index*. See alſo CALCINATION, COMBUSTION, CRYSTALLIZATION, DECOCTION,

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DEFLAGRATION, DIGESTION, DISTILLATION, EVAPORATION, EXTRACTION, LIXIVIATION, MACERATION, PRECIPITATION, SUBLIMATION, &c. in their order, and under CHEMISTRY.

610. An omission of several lines having accidentally taken place, in § 342, whereby Mr Murray's meaning is misrepresented, it is necessary here to insert the whole paragraph, as it stands in Mr Murray's ingenious Treatise, immediately following the paragraph we have marked § 341.

342. "By exposing bones to heat, the gelatin they contain suffers decomposition; its principles enter into new combinations, forming chiefly carbonat of ammonia and empyreumatic oil. These are the products of the above process; the carbonat of ammonia being partly dissolved by the water which distils over, and obtained partly in a concrete state. It is scarcely possible, however, to free it entirely from the empyreumatic oil, which renders it nauseous; and though at one time it was supposed to be possessed of some peculiar virtues, it is now justly rejected from practice; and the carbonat of ammonia, obtained pure by the preceding processes, is preferred."

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PHA

PHARMECUSA, an island in the Ægean Sea, where Julius Cæsar was seized by Pirates. *Suet. Cæs.* 4.

PHARMUTHI, in the ancient Egyptian chronology, one of the months of their year, answering to April, in the Roman Kalendar.

PHARNABAZUS, the son of Pharnabazus a satrap of Persia, and a general under Artaxerxes Longimanus. See PERSIA, § 12. He betrayed the celebrated Alcibiades to his enemies. He flourished about A. A. C. 409.

PHARNACE, a town of Pontus, *Plin.* vi, 4.

PHARNACES, the favourite son of Mithridates the Great, K. of Pontus, who ungratefully rebelled against him, and caused him kill himself. He was defeated by Cæsar, in the expeditious battle, of which he wrote home to Rome *Veni, Vidi, Vici.* Pharnaces was afterwards killed in another battle with the Romans See PONTUS.

PHARNACEUM, in botany, a genus of the Trigynia order, belonging to the Pentandria class of Plants; and in the natural method, ranking under the 22d. order *Caryophylleæ.*

PHARNAPATES, a general of the Parthians, under Orodes; who was killed in battle by the Romans.

PHARNUS, a king of Media, who was conquered by Ninus K. of Assyria.

(1.) PHAROS, in ancient geography, a small oblong island, adjoining to the continent of Egypt, over-against Alexandria. On account of the port of Alexandria, the entrance to which was difficult and dangerous, the Pharos was called *the key of Egypt*, or *of the Egyptian sea*, (*Lucan.*) and *Pharos*, from being a proper name, is become an appellative to denote all light-houses, from the magnificent building of that description on the island. (See N° 3.) It stood upon 4 crabs of glass.

(2.) * PHAROS PHARE. *n. f.* [from *pharos* in Egypt.] A light-house; a lanthern from the shore to direct sailors.—He augmented and reparied the port of Ostia, built a *pharos* or light-house. *Authnat on Coins.*

(3.) PHAROS is a pile raised near a port, where fire is kept burning in the night, to direct vessels near at hand. The Pharos of Alexandria, built in the island of Pharos at the mouth of the Nile, was anciently very famous, insomuch as to communicate its name to all the rest. This most magnificent tower consisted of several stories and galleries, with a lantern at top, in which a light was continually burning, might be seen 100 miles. It was accounted one of the seven wonders of the world. It was built by the famed architect Strates, a native of Cnidos, or, according to some Dinphanes, the father of Sostrates; and cost Ptolemy Philadelphus 800 talents. The several stories were adorned with columns, balustrades, galleries of the finest marble and workmanship; which some add, that the architect had contrived to fasten some looking-glasses so artificially as the highest galleries that one could see in them the ships that sailed on the sea for a great way. Instead of this noble structure, there is now only a kind of irreguiar castle, without ditches or other works of any strength, out of the midst of which rises a tower, which serves for a light-house, but hath nothing of the beauty and grandeur of the old one. The Colossus of Rhodes also served as a pharos. See COLOSSUS, N° 1.

(4.) PHAROS, an island on the coast of Illyricum, now called *Lesina.* See LESINA, N° (*Mela*, ii, c. 7.)

PHARPAR, or PHARPHAR, one of the rivers of Damascus, or rather an arm of the Barrady or Chrysorrhoas, which waters Damascus and the country about it. (2 Kings v. 12. The river of Damascus has its fountain in the mountains of Lebanus. At its approach to the city it is divided into three arms, one of which passes through Damascus. The other two water the gardens round about, and then reuniting they lose themselves at 4 or 5 leagues from the city

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ey, towards the N. See *Maundrell's Travels from Aleppo to Jeruſalem*; alſo the articles ABANA and DAMASCUS.

PHARRKIRCHEN. See PHARKIRCHEN.

(1.) PHARSALIA, an epic poem, compoſed by Lucan on the civil war between Pompey and Cæſar, and particularly on the victory of the latter over the former, (ſee N° 2.) It is a poem univerſally acknowledged to have great beauties and great defects; but we are the leſs capable of eſtimating its merit as a whole, that either time has deprived us of the laſt books, or its author left it incomplete.

(1.) PHARSALIA, or PHARSALIUM, (2.) PHARSALOS, or (1.) PHARSALUS, } a town of Phthiotis, a diſtrict of Theſſaly, near Pheræ and Lariſſa, now called FARSA, to which place Pompey fled from the plains of Pharſalia. It is watered by the Enipeus, which falls into the Apidanus, and both into the Peneus. Between Pharſalus and Enipeus, Pompey drew up his men at the fatal battle of Pharſalia. At the commencement of this battle the whole plain was covered, from Pharſalia to the Enipeus, with two armies, dreſſed and armed after the ſame manner, and bearing the ſame enſigns. At firſt both kept a mournful ſilence; but at length the trumpets ſounded, and Cæſar's army advanced to begin the fight, when Caius Craſtinus, a centurion, at the head of 120 men, threw himſelf upon the enemy's line with incredible fury, and made a great ſlaughter of them, in conſequence of a promiſe he had made to Cæſar. But while he was ſtill preſſing forward, forcing his way through the foe, one of Pompey's men ran him in at the mouth with ſuch violence, that the point of his ſpear came out at the hind part of his neck. Pompey's ſoldiers then took courage, and ſtood the enemy's onſet. While the foot were thus vigorouſly engaged in the centre, Pompey's horſe in the left wing marched up, and having widened their ranks, with a deſign to ſurround Cæſar's right wing, charged his cavalry, and forced them to give ground. Hereupon Cæſar ordered his horſe to retreat a little, and give way to the ſix cohorts, which he had poſted in the rear as a body of reſerve. Theſe, upon a ſignal, coming up, charged the enemy's horſe with determined reſolution, aiming only at the faces of the enemy. This new manner of fighting had the deſired effect. For the young patricians, whom Cæſar calls the *pretty dancers*, not willing to have their faces ſcarred with ſcars, turned their backs, and fled in the utmoſt confuſion, leaving the foot at the mercy of the enemy. Cæſar's men did not purſue them, but charging the foot, now naked and unguarded, ſurrounded them, and cut moſt of them in pieces. Pompey was ſo tranſported with joy at ſeeing the flower of his forces thus cut in pieces, that he left his army, and retired ſlowly to his tent, without ſpeaking a word, and continued there, like one diſtracted, till his whole army was defeated. Cæſar no ſooner ſaw himſelf maſter of the field than he marched to attack Pompey in his entrenchments; upon which, Pompey putting on ſuch a garment as might beſt favour his flight, ſtole out at the decuman gate, and took the road to LARISSA, which city had hitherto ſhown great attachment to him, but where he was murdered, tho' ſome ſay this happened at Peluſium. (See POMPEY). In the mean time Cæſar began the attack on the enemy's camp, which was vigorouſly defended by the cohorts Pompey had left to guard it; but they were at length forced to yield. Cæſar was not a little ſurpriſed, when, after having forced the entrenchments, he found the enemy had made preparations before-hand for a feſtival after the victory, which they thought certain. In Pompey's tent Cæſar found the box in which he kept his letters: but, with a magnanimity worthy of himſelf, he burnt them all, without reading one; ſaying, that he had rather be ignorant of crimes, than obliged to puniſh them. The next day, when the dead were numbered, it appeared that Cæſar had ſcarce loſt 200 men; among whom were about 30 centurions, whom Cæſar cauſed to be buried with great ſolemnity. He paid particular honours to the body of Craſtinus, and ordered his aſhes to be depoſited in a tomb, which he erected to his memory. On Pompey's ſide, the number of the dead amounted to 15,000 according to ſome, and to 25,000 according to others. Cæſar took 24,000 priſoners, 8 eagles, and 180 enſigns.

(2.) PHARSALUS, or PHARSALIA, an extenſive plain of Theſſaly, between the above town and the Enipeus, in which the deciſive battle above mentioned was fought.

PHARUS, in botany, a genus of the hexandria order, belonging to the monœcia claſs of plants; and in the natural method ranking under the fourth order, *Gramina*. The male calyx is a bivalved uniflorous glume; the corolla, a bivalved glume; the female calyx the ſame with the male; the corolla an uniflorous, long, and wrapping glume. There is but one ſeed.

PHARUSII, or PHAURUSII, an ancient nation of Africa, beyond Mauritania. *Mela*, i. c. 4.

PHARYBUS, a river of Macedonia, which runs into the Ægean Sea; by ſome called *Baphyrus*.

PHARYCADON, an ancient town of Macedonia, on the Peneus. *Strabo*, ix.

PHARYGE, an ancient town of Locris.

* PHARYNGOTOMY. *n. ſ.* [φαρυγξ and τεμνω.] The act of making an inciſion into the wind pipe, uſed when ſome tumour in the throat hinders reſpiration.

PHARYNX. See ANATOMY, *Index*.

PHARZA, or FARSA, a town of European Turkey in Janna, (the ancient Theſſaly,) anciently called *Pharſalia*, 14 miles S. of Lariſſa. See FARSA, and PHARSALIA, N° 2.

PHASCHIN, an iſland in the Frozen Ocean, near the S. coaſt of Nova Zembla. Lon. 75. 10. E. Ferro. Lat. 70 30. N.

PHASCUM, in botany, a genus of the order of muſci, belonging to the cryptogamia claſs of plants. The anthera is operculated, with a ciliated mouth; the calyptræ are minute.

PHASE, or PHASIS. See PHASIS, N° 3.

PHASELIS, an ancient town of Pamphylia, much frequented by pirates. *Strab.* 14. *Lucan*, viii, 251.

(1.) * PHASELS. *n. ſ.* [*phaſeoli*, Lat.] French beans. *Ainſworth*.

(2.) PHASELS, are a ſpecies of PHASEOLUS.

(1.) PHAS-

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(1.) PHASEOLUS, the KIDNEY-BEAN; a genus of the decandria order, belonging to the diadelphia class of plants; and, in the natural method, ranking, under the 32d order, *Papilionaceæ*. Linnæus enumerates 15 species. Of these, one comprehends many varieties. Those principally cultivated for the table are, 1. The common white, or Dutch kidney-bean. 2. The smaller kidney-bean, called the *Batterſea kidney-bean*. And, 3. The upright ſort, called the *tree kidney-bean*. 1. The firſt ſort was ſome time ago propagated in England, and is ſtill in Holland; it grows very tall, and requires long ſtakes and poles to climb on, and its beans are conſiderably broad: this makes them leſs ſaleable in the markets, people ſuppoſing them to be old becauſe they are broad; and they are hence grown into diſuſe, though a much more valuable kind for eating than any other. 2. The *Batterſea bean* is what is more univerſally cultivated: it never grows very tall, nor rambles far, and the air can eaſily paſs between the rows, becauſe of its moderate growth; this makes it bear plentifully, and ripen well for the table. It is the beſt taſted bean, except the laſt. 3. The *tree kidney-bean*, is alſo a plentiful bearer, and never rambles, but grows up in form of a ſhrub; but its beans are broader than the Batterſea kind, and are not ſo well taſted. They are all propagated from ſeeds, which are to be put into the ground in the end of March or beginning of April for an early crop; but they ſhould have a warm ſituation and a dry ſoil; and be planted in a dry ſeaſon. The manner of planting them is, to draw lines with a bough over the bed, at 3½ feet diſtance, into which the ſeeds are to be dropped about two inches aſunder; and the earth is to be drawn over them with the head of a rake, to cover them about an inch deep. In a week after ſowing, the plants will appear, and the earth ſhould be drawn up about their ſtalks as they riſe up; for a few days after this they will require no further care, except to be kept clear from weeds, and, when the beans appear, to have them gathered twice a-week; for if the beans are ſuffered to hang on too long, they not only become of no value, but they weaken the plant. The firſt crop of kidney-beans will continue a month in good order; and, to ſupply the table afterwards, there ſhould be freſh ſowings in March, April, May, and June; the laſt of which will continue till the froſts come to deſtroy them. Some raiſe their early crops on hot-beds; and this is to be done exactly in the ſame manner as the raiſing the early cucumbers.

(2.) PHASEOLUS, a new ſpecies of phaſeolus, apparently a very uſeful one, has been diſcovered by M. Moraney, "an inhabitant of Morne Rouge, dependant on the Cape;" we ſuppoſe Cape François of the iſland of St Domingo. It requires no peculiar management: its roots are in ſeaſon when the pods blacken, and its fibres run in every direction, ſearching for nouriſhment through the clefts of rocks, and receiving the impreſſion of the ſtrata without injury. If the principal root is left, the plant ſhoots again and flouriſhes as before; but it is not yet aſcertained whether it puts forth any new roots. The ſeeds are not alimentary when dreſſed, as if nature deſigned them only for propagating other plants. Every uſe which farinaceous plant can ſupply, this new phaſeol has ſucceſsfully anſwered.

PHASES, *n. ſ. plur.* in aſtronomy, from t Greek word φαινω, *to appear*; the ſeveral appe ances or quantities of illumination of the Mo Venus, Mercury, and the other planets. See A TRONOMY.

PHASGA, or PISGAH. See PISGAH.

PHASIANA, in ancient geography, a coun of Aſia, ſeated on the banks of the PHASIS.

PHASIANI, the people of PHASIANA. T were originally from Egypt.

PHASIANUS, in ornithology, a genus of bi belonging to the order of gallinæ. The ch are covered with a ſmooth naked ſkin. Gil in his Roman Hiſtory, tells us, that the *phaſianus* is derived from the river PHASIS, banks of which are the native habitation o pheaſant. See PHASIS, N° 3. There are m ſpecies and Varieties. See PHEASANT.

1. PHASIANUS ARGUS is yellowiſh, black ſpots, a red face, and a blue creſt on back of the head. It is found in Chineſe Ta "The argus," (ſays Latham,) though it be tive in china, is very commonly found in the of Sumatra, where it is called *coo-ow*. It i extremely difficult to be kept alive for any derable time after catching it in the woods; for more than a month. It ſeems to have a pathy to the light, being quite inanimate open day; but when kept in a dark place, pears perfectly at eaſe, and ſometimes ma note or call, from which it takes its name which is rather plaintive, and not harſh lik of a peacock. The fleſh reſembles that common pheaſant."

2. PHASIANUS COLCHICUS is red, with head, a wedge-ſhaped tail, and papillous c It is a native of Africa and Aſia.

3. PHASIANUS GALLUS, the common hill cock and hen, with a compreſſed carun fleſhy comb on the top of the head, and a c of caruncles or wattles under the chin. Th are naked, and the tail is compreſſed and cr Of all birds, perhaps this ſpecies affords the leſt number of varieties; there being ſcarce t be found that exactly reſemble each other in age and form. The tail, which makes ſo beautiful figure in moſt of theſe birds, is ca wanting in others; and in ſome even the rum ſo. The toes, which are uſually four in all mals of the poultry kind, yet in one ſpeci mount to five. The feathers, which lie ſo and in ſuch beautiful order in moſt of thoſ are acquainted with, are in a peculiar ſpeci inverted, and ſtand ſtaring the wrong way. there is a variety that comes from Japan, inſtead of feathers ſeems to be covered over hair. It is not well aſcertained when the was firſt made domeſtic in Europe; but it is rally agreed that he was firſt brought to Eu from Perſia. Ariſtophanes calls the cock *Perſian bird*; and tells us he enjoyed that dom before ſome of its earlieſt monarchs. animal was known ſo early even in the moſt ſa parts of Europe, that the cock was one of forbidden foods among the ancient Britons.

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deed, the domestic fowl seems to have banished the wild one. Persia itself seems no longer to know it in its natural form. But the cock is still found in the islands of Tinian, in many others of the Indian ocean, and in the woods on the coast of Malabar, in its ancient state of independence. In his wild condition, his plumage is black and yellow, and his comb and wattles yellow and purple. There is another peculiarity also in those of the first woods; their bones, which, when boiled, with us are white, in those are as *black* as ebony. The animal has greater courage than the cock when matched to one of his own species; and in every part of the world where refinement and polished manners have not entirely taken place, cock-fighting is a principal diversion. In China, India, the Philippine islands, and all over the East, cock-fighting is the sport and amusement even of kings and princes. With us it is declining every day; and it is to be hoped it will in time be abolished even among the lowest vulgar. See COCK-FIGHTING, § 1—4. The cock claps his wings before he crows. His sight is very piercing; and never fails to cry in a peculiar manner, when he discovers any bird of prey in the air. His extraordinary courage is thought to proceed from being the most salacious of all birds. A single cock suffices for ten or a dozen hens; and it is said that he is the only animal whose spirits are exhilarated by indulgence. But he soon grows old, the radical moisture is exhausted; and in 3 years he becomes utterly unfit for impregnation. "Hens also, (says Willughby,) as they have greatest part of the year daily lay eggs, and sufficient for so many births, but for the most part after three years become barren." The hen usually clutches a brood of chickens above once a year, though instances have been known in which they produced two. The number of eggs which one hen will lay in the year are above 200 provided she be well fed and supplied with water plentifully. It matters not much whether she be covered by the cock or not; she will continue to lay, though the eggs of this kind can never by any means be brought to produce a living animal. If she is made without any care, if left to herself, she scratched in the ground, among a few leaves, is the only preparation she makes for the reason of patient expectation. Nature, almost nauseated by its own fecundity, seems to instruct her of the proper time for hatching, which she herself testifies by a clucking note, and by disdaining to lay. The good housewives, who get more by their hens eggs than by their hens, often artificially protract this clucking fit, and sometimes entirely remove it. As soon as a hen begins to cluck, they stint her in her food; which, if that fails, they plunge her in cold water; this, for the time, effectually stops her hatching; but then it often kills the poor bird, who takes cold and dies under the operation. If left entirely to herself, the hen will seldom lay above twenty eggs in the same season without attempting to hatch them. In the warmer climates the hen seldom lays above fifteen eggs. When the hen has hatched her chickens, her affection seems to alter her very nature, and correct her imperfections. No longer voracious or cow-

ardly, she abstains from all food that her young can swallow, and flies boldly at every creature that she thinks is likely to do them mischief. Capons may very easily be taught to clutch chickens. To effect this they pluck the feathers off his breast, and rub the bare skin with nettles; they then put the chickens to him, which presently run under his breast and belly; and probably rubbing his bare skin gently with their heads, allay the stinging pain which the nettles had just produced. This is repeated for two or three night; till the animal takes an affection to the chickens that have thus given him relief, and continues to give them the protection they seek for. He from that time brings up a brood of chickens like a hen, clutching them, feeding them, clucking, and performing all the functions of the tenderest parent. A capon once accustomed to this service, will not give over; but when one brood is grown up, he may have another nearly hatched put under him, which he will treat with the same tenderness he did the former. The cock, from his salaciousness, is a short-lived animal in a domestic state; but how long these birds live, if left to themselves, is not yet well ascertained. Aldrovandus hints their age to be 10 years; and it is probable that this may be its extent. They are subject to some disorders; and as for poisons, besides nux vomica, which is fatal to most animals except man, they are injured, as Linnæus asserts, by elderberries; of which they are not a little fond. Of this species Mr Latham enumerates no less than 13 varieties, beginning with the wild cock, which is a 3d less in the body than the domestic cock. This variety he imagines to be the original stock from whence all our domestic varieties have sprung. They appear to be natives of the forests of India. There are but few places, however, as he observes, where the different voyagers have not met with cocks and hens, either wild or tame. Those of Pulo Condore are very much like our own, but considerably less, being only of the size of a crow. (*Damp. Voy.* vol. i. p. 392.) Those of Sumatra and Java are remarkably large, and are called the *St Jago breed*. The cock is so tall as to peck off a common dining table. When fatigued, he sits down on the first joint of the leg. (*Hist. Sumatra*, p. 98. They are found in New Guinea, but not in great plenty. (*Forr. Voy.* p. 105.) Forster observes, that they are plenty at Easter, Society, and Friendly Isles: at the two last they are of a prodigious size. They are not uncommon at the Marquesas, Hebrides, and New Caledonia; but the Low Isles are quite destitute of them. (See *Obs.* p. 193.) Ducks and poultry are numerous in the Sandwich Isles. (*Cook's Journal*, p. 229.) They are not found to breed in the northern parts of Siberia; and in Greenland are only kept as rarities. (*Faun. Groen.*) See HATCHING, N° 1.

4. PHASIANUS GUINENSIS. *The motmot*, or *Guinea pheasant*, is brownish, somewhat red below with a wedge-like tail, and wants spurs.

5. PHASIANUS NECTHEMERUS is white, with a black crest and belly, and a wedge-shaped tail. It is a native of China.

6. PHASIANUS PICTUS has a yellowish crest, a red breast, and a wedge-shaped tail. It is a native of China.

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(1.) * PHASIS. *n. f.* In the plural *phaſes*. [φασις; *phaſe*, Fr.] Appearance exhibited by any body; as the changes of the moon.—All the hypotheſes yet contrived, were built upon too narrow an inſpection of the *phaſes* of the univerſe. *Glanville.*—

He o'er the ſeas ſhall love or fame purſue;
And other months another *phaſis* view. *Creech.*

(2.) PHASIS. See PHASES.

(3.) PHASIS, in ancient geography, a river which falls into the Euxine ſea about 700 miles from Conſtantinople. "From the Iberian Caucaſus (ſays Gibbon), the moſt lofty and craggy mountains of Aſia, that river deſcends with ſuch oblique vehemence, that in a ſhort ſpace it is traverſed by 120 bridges. Nor does the ſtream become placid and navigable till it reaches the town of Sarapana, five days journey from the Cyrus, which flows from the ſame hills, but in a contrary direction, to the Caſpian lake. The proximity of theſe rivers has ſuggeſted the practice, or at leaſt the idea, of wafting the precious merchandiſe of India down the Oxus, over the Caſpian, up the Cyrus, and with the current of the Phaſis into the Euxine and Mediterranean ſeas. As it ſucceſſively collects the ſtreams of the plain of Colchos, the Phaſis moves with diminiſhed ſpeed, tho' accumulated weight. At the mouth it is 60 fathoms deep, and half a league broad; but a ſmall woody iſland is interpoſed in the midſt of the channel: the water, ſo ſoon as it has depoſited an earthy or metallic ſediment, floats on the ſurface of the waves, and is no longer ſuſceptible of corruption. In a courſe of 100 miles, 40 of which are navigable for large veſſels, the Phaſis divides the celebrated region of Colchos or Mingrelia, which, on three ſides, is fortified by the Iberian and Armenian mountains, and whoſe maritime coaſt extends about 200 miles, from the neighbourhood of Trebizond to Dioicurias, and the confines of Circaſſia. Both the ſoil and climate are relaxed by exceſſive moiſture; 28 rivers, beſides the Phaſis and his dependent ſtreams, convey their waters to the ſea; and the hollowneſs of the ground appears to indicate the ſubterraneous channels between the Euxine and the Caſpian."

(4.) PHASIS, an ancient city of Colchis, ſo named from the above river.

(1.) * PHASM. *n. ſ.* [φασμα.] Appearance; phantom; fancied apparition.—Thence proceed many aerial fictions and *phaſms*. *Hammond.*

PHASMATA, } in phyſiology, are certain ap-
(2.) PHASMS, } pearances ariſing from the various tinctures of the clouds by the rays of the heavenly bodies, eſpecially the ſun and moon. Theſe are infinitely diverſified by the different figures and ſituations of the clouds, and the appulſes of the rays of light; and, together with the occaſional flaſhings and ſhootings of different meteors, they have, no doubt, occaſioned thoſe prodigies of armies fighting in the air, &c. of which we have ſuch frequent accounts in moſt ancient authors. See 2 Maccab. xi. 8. *Melancth. Meteor.* 2 *Sibel.* de Comet. ann. 1618. *Joſephus.*

PHASSACHATES, in lithology, a ſpecies of agate, which the ancients, in its various appearances, ſometimes called *leucachates* and *perileucos*.

PHATEZ, a town of Ruſſia, in the prov. of Kurſk, on the Uſoza; 40 miles N. of Kurſk.

PHAUDA, an ancient town of Phocis.

PHAVORINUS, an ancient Lexicographer, au thor of a Greek Lexicon, ſtill extant; the beſt dition of which is that in fol. *Venet.* 1712. (*Lem priere.*) Perhaps he is the ſame with *Favorinus* a native of Arles in Gaul. See FAVORINUS.

PHAURUSII. See PHARUSII.

PHAYLLUS, tyrant of Ambracia, brother the celebrated Onomarchus of Phocis. See PH CIS. *Pauſ.* x. c. 2.

PHEA, or PHEIA, an ancient town of El *Hom. Iliad.* vii.

(1.) * PHEASANT. *n. ſ.* [*faiſan*, Fr. *phaſia* from *Phaſis*, the river of Colchos.] A kind wild cock.—The hardeſt to draw are tame h as the cock, peacock and *pheaſant*. *Peacham*

Preach as I pleaſe, I doubt our curious
Will chuſe a *pheaſant* ſtill before a hen.

(II.) PHEASANT, in ornithology. See PH ANUS. Mr Latham enumerates 9 different ſp of pheaſants, and 6 varieties of the common ſant; but as he gives them no diſtinctive triv claſſical names, we reſerved a deſcription of ſ of them to this article, inſtead of arranging under PHASIANUS, the generic name.

1. PHEASANT, COMMON. Mr Latham obſ that the common pheaſant is now found in a of nature in almoſt the whole of the Old C nent. They ſometimes (he ſays) come into yards near woods, and produce croſs breed common hens. He then ſays, "M. Saler marks, that the hen pheaſant, when done and fitting, will get the plumage of the male after that become ſo little reſpected by him, be treated with the ſame incivility as he ſhow to one of his own ſex. Pheaſants were ginally brought into Europe from the banks PHASIS, a river of Colchis, in Aſia Minor from whence they ſtill retain their name. to the peacock, they are the moſt beauti birds, as well for the vivid colour of their as for their happy mixtures and variety. birds, ſo beautiful to the eye, are not leſs when ſerved up to the table. Their fleſh ſidered as the greateſt dainty. A ſpirit of pendence ſeems to attend the pheaſant even tivity. In the woods, the hen pheaſant lay 18 to 20 eggs in a ſeaſon; but in a domeſtic ſhe ſeldom lays above 10. In the ſame m when wild, ſhe hatches and leads up her with patience, vigilance, and courage; but kept tame, ſhe never ſits well, ſo that a hen nerally her ſubſtitute upon ſuch occaſions: for leading her young to their food, ſhe is u ignorant of where it is to be found; and the birds ſtarve, if left ſolely to her protection. pheaſant, therefore, on every account, ſeem ter left at large in the woods than reclaim priſtine captivity. Its fecundity when w ſufficient to ſtock the foreſt; its beautiful pl adorns it; and its fleſh retains a higher fl from its unlimited freedom. At night they upon the higheſt trees of the wood; and b they come down into the lower brakes and b where their food is chiefly found. They gen make a kind of flapping noiſe when they are the females; and this often appriſes the ſport of their retreats. At other times he traces in the ſnow, and frequently takes them in ſp

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But of all birds they are ſhot moſt eaſily; as they always make a whirring noiſe when they riſe, by which they alarm the gunner, and being a large mark, and flying very ſlow, there is little chance of miſſing them. When theſe birds are taken young into keeping, they become as familiar as chickens. For her neſt, dry graſs and leaves muſt be laid for her in the pheaſantry. The young ones are very difficult to be reared, and they muſt be ſupplied with ants eggs, which is the food the old one leads them to gather when wild in the woods. To make theſe go the farther, they are to be chopped up with cruds or other meat: and the young ones are to be fed with great exactneſs, both as to the quantity and the time of their ſupply. This food is ſometimes alſo to be varied; with wood lice, earwigs, and other inſects, are to make a variety. The place where they are reared muſt be kept extremely clean; their water muſt be changed twice or thrice a-day; they muſt not be ſuffered till the dew is off the ground in the morning, and they ſhould always be taken in before it. When they become adult, they very well can ſhift for themſelves; but they are particularly fond of oats and barley. The pheaſant, when full grown, ſeems to feed indifferently upon every thing that offers. A French writer, aſſerts that they regale even upon carrion.

PHEASANT, COURIER. "The courier pheaſant is but very imperfectly deſcribed by Fernandez, and is ſaid to be 18 inches long. The general colour of the plumage is white, inclined to fulvous about the tail they are black, mixed with white ſpots of white; the tail itſelf is long, and of a dark colour, reflecting in ſome lights like the feathers of a peacock: the wings are ſhort. This bird inhabits the hotter parts of Mexico; flies ill; but is recorded to outrun the ſwifteſt horſe."

PHEASANT, HYBRIDAL, a name given by Linnæus to a ſpecies or variety which is a mixed breed between the pheaſant and cock; one of which is in the Leverian Muſeum.

PHEASANT, PARRAKA. The parraka is about the ſize of a ſmall fowl, reſembling it in the legs and body. Its length is 23 inches. The bill of the bill is dark rufous; the eyes are black; the general colour of the plumage is a dark brown on the back, and fulvous under the belly: the top of the head is fulvous, and the feathers are ſomewhat long, but not ſo much as to form a real creſt; the wings are ſhort; the webs of ſome of the quills are ſomewhat rufous; the tail conſiſts of 12 feathers, is even at the end, about a foot in length, and is, for the moſt part, pendent; the legs are of a dark rufous, inclining to black; the claws are like thoſe of a fowl. It is peculiar (ſays Mr Latham) in its internal ſtructure in reſpect to the windpipe; which, inſtead of entering directly the breaſt, as in moſt birds, paſſes over the ſide of the left clavicle, and on the ſide of the fleſhy part of the breaſt, being covered only by the ſkin, then taking a turn upwards, paſſes over the right clavicle into the breaſt, and is diſtributed through the lungs in the uſual manner. The female has not this circumvolution of the windpipe. The hannequaw, mentioned by Marcgrave, is probably the ſame bird. He ſays that it is black, roofts in trees, and may be heard early in the morning, diſtinctly, but hoarſely, repeating the word *hannequaw* (eaſily miſtaken for parraquaw) very loud. Theſe are found in the unfrequented woods of the internal parts of Cayenne, Guiana, and many parts of S. America. At ſunriſe they ſet up a very loud cry, which is thought to be the loudeſt of all birds in the new world; at which time the eyes appear red, as does a ſmall ſkin under the breaſt, which is not at all ſeen, except when the bird makes ſuch exertions, or is angry. This cry is very like the word parraquaw; and is repeated many times together; and often many cry at once, or anſwer one another, but moſt in breeding time, which is twice in the year; at each time laying from four to ſix eggs; making the neſt in low branches or ſtumps of trees, and behaving with their chickens in the ſame manner as hens. They feed on grain, ſeeds, and herbs; but feed the young in the neſt with worms and ſmall inſects. Theſe, with many other birds, inhabit the woods by day, coming out into the open ſavannas morning and evening to feed; at which times they are chiefly killed by the natives and near inhabitants. They may be brought up tame; and their fleſh is much eſteemed.

5. PHEASANT, SUPERB. This bird Linnæus deſcribed from the various repreſentations of it painted on paper hangings, and China ware; and farther confirmed by a figure and deſcription in a Chineſe book which came under his inſpection.

(III.) PHEASANT'S EYE, in botany. See ADONIS.

(IV.) PHEASANTS, ISLE OF, or ISLE DE FAISANS, or the ISLE OF CONFERENCE, an iſland between France and Spain, formed by the Bidaſſoa, abounding with *Pheaſants*. The BIDASSOA had long been a ſubject of diſpute between France and Spain, each county laying claim to it excluſively; till the 15th century, when it was agreed between Lewis XII. of France, and Ferdinand V. of Spain, that the river ſhould be common to both nations. This iſland was afterwards the ſcene, where another treaty, called the *Treaty of the Pyrenees*, was concluded between France and Spain, in 1699; and it was alſo the ſcene of an interview between the monarchs of theſe kingdoms, on the marriage of Lewis XIV. whence its latter name. It lies about 2 miles from Fontarabia. Lon. 1. 46. W. Lat. 45. 20. N.

PHEBE, a deaconeſs of the port of Corinth, called *Cenchrea*. St Paul had a particular eſteem for her; and Theodoret thinks he lodged at her houſe, while he continued at Corinth. She brought to Rome the epiſtle he wrote to the Romans, wherein ſhe is commended in ſo advantageous a manner. See Rom. xvi. 1, 2.

PHECADUM, an ancient inland town of Macedonia. *Liv.* 31. c. 41.

PHEDOROVKA, a town of Ruſſia, in Ekaterinoſlaff, on the Bug; 60 miles NW. of Cherſon.

PHEDOSIEUKA, a town of Ruſſia, in the country of the Coſſacks, on the Choper; 44 miles W. of Archadinſkaia.

* PHEER. *n. ſ.* A companion. See FEAR. *Spenſ.*

* *To* PHEESE. *v. a.* [perhaps to *feaze*.] To comb; to fleece; to curry.—

An he be proud with me, I'll *pheeſe* his pride.
Shake.

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PHEGOR, or PEOR, a deity worshipped at a very early period by the Midianites and Moabites, and probably by all the other tribes which then inhabited Syria. PHEGOR, or PEOR, is the same with the Hebrew word *pechor*, which signifies *aperuit*, and probably refers to the prophetic influence always attributed to the solar deity, by which he *opened* or *discovered* things to come. Accordingly we find PHEGOR or PEOR generally joined to BAAL, which was the Syrian and Chaldean name of the sun after he became an object of worship; hence BAAL-PHEGOR must have been the sun worshipped by some particular rites, or under some particular character. What these were, a resolution of *Pechor* into its component parts may perhaps inform us. As this word, wherever it occurs in Scripture, has some relation to distending or opening the mouth wide, it is probably compounded of PHAH the *mouth* or *face*, and EHAR *naked*. In those countries we know that the women wore veils; but it would appear, that in celebrating the rites of this deity they were unveiled. It seems even not improbable, that on these occasions the sexes danced promiscuously without their clothes; a practice which would naturally give birth to the licentious amours mentioned in the 25th chapter of the book of Numbers. If this be admitted, it will follow that *Phegor* was the sun presiding over the mysteries of Venus. See BAAL-PEOR.

PHEIA. See PHEA.

PHELDSCHARETZ, a town of Russia, in the province of Caucasus; 20 miles S. of Kizlar.

PHELIN. See PHELLIN.

PHELLANDRIUM, WATER HEMLOCK; a genus of the digynia order, belonging to the pentandria class of plants; and in the natural method, ranking under the 45th order, *Umbellatæ*. There are two species, one of which, viz.

PHELLANDRIUM AQUATICUM, is a native of Britain. This grows in ditches and ponds, but is not very common. The stalk is remarkably thick and dichotomous, and grows in the water. It is a poison to horses, bringing upon them, as Linnæus informs us, a kind of palsy; which, however, he supposes to be owing not so much to the noxious qualities of the plant itself, as to those of an insect which feeds upon it, breeding within the stalks, and which he calls *curculio paraplecticus*. The Swedes give swine's dung for the cure. The seeds are sometimes given in intermittent fevers, and the leaves are by some added to discutient cataplasms. In the winter, the roots and stem, dissected by the influence of the weather, afford a very curious skeleton or network. Horses, sheep, and goats, eat the plant; swine are not fond of it; cows refuse it.

PHELLIA, a river of Laconia. *Paus.* iii. 20.

(1.) PHELLIN, a river of Russia, which runs from Lake Vertz, and falls into the Baltic, at Pernov.

(2.) PHELLIN, a town of Russia, in the prov. of Riga, on the Phellin; 96 miles N. of Riga. Lon. 43° E. Ferro. Lat. 58. 10. N.

PHELLOE, an ancient town of Achaia. *Paus.*

PHELLUS, 2 ancient towns of Greece: 1. in Attica: 2. in Elis, near Olympia. *Strabo.*

PHEMIUS, an ancient musician, who taught Homer music.

PHEMONOE, a priestess of Apollo, who is said to have been the inventress of heroic verses. *Paus.* x. 6.

PHENEATÆ, the people of PHENEUM. *Cic.*

PHENEUM, an ancient town of Arcadia, where Mercury had a temple. *Cicero.*

PHENEUS, a town and lake of Arcadia.

PHENGITES, among the ancients, the name of a beautiful species of alabaster. It is a rude irregular mass, very shattery and friable, but of brightness superior to that of most other marble and excelling them all in transparence. The colour is an agreeable pale yellowish, white, or honey colour; the yellowish is more intense in some places than in others, and sometimes makes obscure resemblance of veins. It is very and brittle in the mass; and when reduced small pieces, may be easily crumbled between fingers into loose, but considerably large and pieces, some perfect, others complex, irregular or mutilated, and all approaching to a flat The ancients were very fond of this species public buildings; (See ATHENS, § 8; and PHORICUM,) and the Temple of Fortune, entirely of it, has long been celebrated. Its beauty is its transparence, from which alone temple was perfectly light when the doors shut, though it was built without a window, had no other light but what was transmitted through the stone its walls were built with was anciently found in Cappadocia, and is plentiful there: we have it also in Germany France, and in Derbyshire, and some other lish counties. It takes an excellent polish, and very fit for ornamental works, where there great strength required. See AMETHYST.

PHENICE, a port of the island of Crete, the W. coast of the island. St Paul having chored at Phenice, in his voyage to Rome (xxvii. 12.), advised the ship's crew to spend winter there, because the season was too far vanced.

PHENICIA. See PHOENICIA.

(1.) * PHENICOPTER. *n. f.* [φοινικόπτερος; *phœnicopterus*, Lat.] A kind of bird, which is described by *Martial*:—

Dat mihi penna rubens nomen sed lingua gulæ
Nostra sapit; quid si garrula lingua foret?

—He blended together the livers of guilthe the brains of pheasants and peacocks, tongues *phenicopters*, and the melts of lampreys. *Hakewill on Providence.*

(2.) PHENICOPTER. See PHOENICOPTERUS.

(1.) * PHENIX. *n. f.* [φοῖνιξ; *phœnix*, Lat.] The bird which is supposed to exist single, and rise again from its own ashes.—

There is one tree, the *phenix* throne;
phenix
At this hour reigning there.

To all the fowls he seems a *phenix*.

—Having the idea of a *phenix* in my mind, first enquiry is, whether such a thing does ex *Locke.*

(2.) PHENIX. See PHOENIX.

(1.) * PHENOMENON. *n. f.* [φαινόμενον; *phénomene*, Fr. it is therefore often written *phœnomenon*; but being naturalised, it has changed the which is not in the English language, to *e*.

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if it has the original plural termination *phænomena*, it should, I think, be written with *æ*.] 1. Appearance; visible quality.—Philosophers, whose business it is to describe, in comprehensive theories, the *phænomena* of the world and their causes. *Barret.*—These are curiosities of little or no moment to the understanding the *phenomenon* of nature. *Newton.*—The most considerable *phenomena*, belonging to terrestrial bodies, is gravitation. *Addison.* 2. Any thing that strikes by any new appearance.

(1.) PHENOMENON. See PHÆNOMENON.

PHEONS, *n. s.* in heraldry, the barbed heads of darts, arrows, or other weapons.

PHEOS, in botany, a name which Theophrastus, Dioscorides, and others, give to a plant used by fullers in dressing their cloths, and of which there were two kinds, a smaller called simply *pheos*, and a larger called *hippopheos*. This plant is sometimes called PHLEOS; and is thus confounded with a kind of marsh cudweed, or *gnaphalium*, called also by that name; but it may also be discovered which of the two plants an author means, by observing the sense in which the word is used, and the use to which the plant was applied. The *pheos*, properly so called, that is, the smaller, was used to stuff beds and other such things, and to pack up with earthen vessels to prevent their breaking; but the pheos, improperly called *phleos*, only about cloths: this was, however, also called *flæbe* and *cnaphon*.

(2.) PHERÆ, an ancient town of Thessaly, where the tyrant Alexander reigned, hence named *Pheræus*. See PELOPIDAS. *Strabo* 8. *Cic. de*

(3.) PHERÆ, two towns in Attica and Laconia.

PHERÆUS, a surname of Jason, and Alexander.

PHERECRATES, a Greek comic poet, who was contemporary with Plato and Aristophanes. After the example of the ancient comedians, who had introduced upon the theatre imaginary but real characters, he acted his contemporaries. He did not abuse the liberty which at that time prevailed upon the stage. He laid it down as a rule to himself never to hurt the reputation of any person. Twenty-one comedies are attributed to him, of which there now only remain some fragments collected by Hertelius and Grotius. From these, however, it is easy to discern, that Pherecrates wrote the purest Greek, and possessed that ingenious and delicate raillery which is called *attic urbanity*. He was author of a work called *Ages*, and a kind of verse called, *Pherecratic*.

PHERECRATIC VERSE. The three last feet of an hexameter verse, and the first of those feet was always a spondee. This verse of Horace, for example, *Quamvis pontica pinus*, is a Pherecratic verse.

PHERECYDES, a native of Scyros, who flourished about A. A. C. 560, and was disciple of Cadmus. (See PITTACUS.) He is said to have been the first philosopher who wrote on natural things and the essence of the gods. He was also the first who held the ridiculous opinion, "that animals are mere machines." He was Pythagoras's master, who loved him as his own father. He lived to the age of 85, and was one of the first prose writers among the Greeks. It is difficult to give an accurate account of the doctrines of Pherecydes. It is most probable that he taught those opinions concerning the gods and the origin of the world which the ancient Grecian theogonists borrowed from Egypt. See EGYPT, METAPHYSICS, MYSTERIES, MYTHOLOGY, and POLYTHEISM.

PHERES, in fabulous history, the son of Cretheus and Tyro, who built PHERÆ, in Thessaly, where he reigned. He married Clymene, by whom he had Admetus. *Apollod.*

PHERETIMA, the wife of Battus, king of Cyrene, and the mother of Arcesilaus. After her son's death, she recovered the kingdom by the aid of Amasis king of Egypt, and to avenge the murder of Arcesilaus, she caused all his assassins to be crucified round the walls of Cyrene, and she cut off the breasts of their wives, and hung them up near the bodies of their husbands. It is said that she was devoured alive by worms; a punishment from heaven for her unparalleled cruelties.

PHERON, a king of Egypt, who succeeded Sesostris. He was blind; and he recovered his sight by washing his eyes, according to the directions of the oracle, in the urine of a woman who had never had any unlawful connections. He tried his wife first, but she appeared to have been faithless to his bed, and she was burnt with all those whose urine could not restore sight to the king. He married the woman whose urine proved beneficial. *Herodot.* ii. c. 111.

PHERVINTERSKOI, a cape of Russia, on the E. coast of Nova Zembla. Lon. 95. 10. E. Ferro. Lat. 77. 30. N.

PHETRI. See PARTHIA, § 3.

* PHIAL. *n. s.* [*phiala*, Lat. *phiole*, Fr.] A small bottle.—

Upon my secure hour thy uncle stole
With juice of curs'd hebenon in a *phial*. *Shak.*

—He proves his explications by experiments made with a *phial* of water. *Newton.*

(2.) PHIAL, LEYDEN. See ELECTRICITY, *Index*; and LEYDEN, N° 4.

PHIALIA, a town of Arcadia. *Paus.* viii. 3.

PHICORES, an ancient nation who inhabited the banks of the Palus Mæotis. *Mela*, i. 19.

PHIDIAS, the most famous sculptor of antiquity, was an Athenian, and flourished in the 83d Olympiad. This wonderful artist was not only consummate in the use of his tools, but accomplished in the sciences of history, poetry, fable, geometry, optics, &c. He first taught the Greeks to imitate nature perfectly, and all his works were received with admiration. They were also incredibly numerous; for it was almost peculiar to Phidias, that he united the greatest facility with the greatest perfection. His Nemesis, one of his first pieces, was carved out of a block of marble, found in the Persian camp, after the battle of Marathon. He made an excellent statue of Minerva for the Plateans; but the statue of this goddess in her magnificent temple at Athens, of which there are still some relics, was an astonishing production. Pericles ordered Phidias to make a statue of the goddess; and Phidias formed a most admirable figure of ivory and gold, 39 feet high.

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high. But what rendered his name immortal, proved at that time his ruin. He had carved upon the ſhield of the goddeſs his own portrait and that of Pericles; and this was made a crime. Upon this he withdrew to Elis, and made for the Eleans the Olympic Jupiter; a prodigy of art which was ranked among the 7 wonders of the world. It was of ivory and gold; 60 feet high, and every way proportioned. Phidias concluded his labours with this maſterpiece; and the Eleans, to do honour to his memory, appropriated to his deſcendants, the office of keeping clean this magnificent image.

PHIDITIA, in Grecian antiquity, feaſts celebrated with great frugality at Sparta. They were held in the public places and in the open air. Rich and poor aſſiſted at them equally, and on the ſame footing; their deſign being to keep up peace, friendſhip, good underſtanding, and equality among the citizens great and ſmall. It is ſaid that thoſe who attended this feaſt brought each a buſhel of flour, eight meaſures of wine named *chorus*, five mince of cheeſe, and as many figs.

PHIGALEI, an ancient people of Peloponneſus, who inhabited the country near Meſſenia. *Pauſ.*

PHIGALIA. See PHIALIA.

(1.) PHILA, in mythology, one of the attributes of Venus, which diſtinguiſhes her as the mother of love, from φιλω *to love*.

(2.) PHILA, an ancient town of Macedonia.

(1.) PHILADELPHIA, in antiquity, were games inſtituted at Sardis to celebrate the union of Caracalla and Geta, the ſons of Septimius Severus.

(2—5.) PHILADELPHIA, in ancient geography, the name of 4 towns; 1. in Arabia; 2. in Cilicia; 3. in Syria. *(Lempr.)* 4. in Lydia, now called *Alahſher*. *Plin.* v. c. 29.

(6.) PHILADELPHIA, an ancient town of Turkey in Aſia, in Natolia. It is ſeated at the foot of mount Tmolus, by the river Cogamus, whence there is an exceeding fine view over an extenſive plain. It was founded by Attalus Philadelphus, brother of Eumenes. It was very liable to earthquakes, which, perhaps, aroſe from its vicinity to the region called *Catakekanmene*. So ſevere were thoſe earthquakes, that even the city walls were not ſecure; and ſo frequent were they, that theſe experienced daily concuſſions. The inhabitants, therefore, who were not numerous, lived in perpetual apprehenſion, and their conſtant employment was in repairs. In fact, ſo great were their fears, that their chief reſidence was in the country, the ſoil of which was very fertile. Such is Strabo's account of this place. In 1097, it was taken by aſſault by John Ducas the Greek general. It was without difficulty reduced alſo in 1106, under the ſame emperor. The Turks marched from the Eaſt with a deſign to plunder it and the maritime towns. The Emperor Manuel, in 1175, retired for protection from the Turks to this place. In 1300 it fell by lot to Karaman. In 1306 it was beſieged by Amaras, and conſiderably harraſſed; but was not taken. In 1391, this place alone refuſed to admit Bajazet; but it was at length forced to capitulate for want of proviſions. It has been matter of ſurpriſe that this town was not totally abandoned; and yet it has ſurvived many cities leſs liable to inconveniences and is ſtill an extenſive place, though in appearance it is poor and mean. Some remnants of its walls are ſtill ſtanding, but with large gaps. The materials are ſmall ſtones ſtrongly cemented. It is thick, lofty, and has round towers. Near it among the mountains, there is a ſpring of a purgative quality; and many people reſort to it in the hot months. It taſtes like ink, is clear, but tinges the earth with the colour of ochre. The famous wall which credulity has believed to be made of human bones, ſtands beyond the and the town. See N° 10. Dr Chandler, who viſited it, ſays, "the number of churches is moſtly in ruins, decorated with painted Only ſix are in a better condition. The epiſcopal church is large, and ornamented with gilt carving, and holy portraits. The Greeks are about 300 families, and live in a friendly courſe with the Turks. The clergy and laity general are ignorant of Greek, yet the liturgy and offices of the church are read in that language. The Philadelphians are a civil people. One of the Greeks ſent us a ſmall earthen full of choice wine. Philadelphia, poſſeſſing waters excellent in dying, and being ſituated on of the moſt capital roads to Smyrna, is much quented, eſpecially by Armenian merchants. Greeks ſtill call this place by its ancient but the Turks call it *Allahijur*. The number inhabitants is about 8000; of whom 2000 are poſed to be Chriſtians." It is about 40 miles of Smyrna. Lon. 28. 15. E. Lat. 38. 28. N.

(7.) PHILADELPHIA, a populous and well tivated county of Pennſylvania; bounded NE. by the Poquaſin an l Bucks county; SE S. by the Delaware, which ſeparates it from Jerſey; W. by Delaware county, and NW Montgomery county. It is 22 miles long, broad; contains 89,600 acres; and is divided to 14 townſhips; viz. Smithfield, Byberry, land, Lower Dublin, Oxford, Briſtol, Ge town, Roxburgh, Northern Liberties, Bloc Philadelphia, Moyamenſing, Paſſyunk, and ſeſs. It contained, in 1795, beſides the c PHILADELPHIA, (N° 9.) 11,667 free citizens 114 ſlaves. It ſends 5 members to the Ge Aſſembly.

(8.) PHILADELPHIA, a townſhip in the county.

(9.) PHILADELPHIA, the capital of Penn nia, and of the above county. It is one of moſt beautiful and regular cities in the world ing of an oblong form, ſituated on the W. of the Delaware, on an extenſive plain, by courſe of the river, 120 miles from its m where it flows into the Atlantic. It is ho only 60 miles from the ſea at Little Egg Har in a WNW. direction; where the river is a broad, and deep enough to admit a ſixty-gun ſhip. The tide riſes 6 feet perpendicular flows at the rate of 4 miles an hour, to the of Trenton, 30 miles higher up in a NE. d tion. The length of the city, from E. to W. is, from the Delaware to the Schuylkill, a the original plan of Mr Penn, is 10,300 feet, the breadth from N. to S. is 4,837 feet. The

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ty was founded by the celebrated William Penn. The original plan of the city was a parallelogram, extending in length from Delaware, two ſquares beyond Schuylkill. The weſtern limits of the city were, however, confined by the firſt charter, granted by William Penn, in 1701, to the E. ſide of Schuylkill. This plot, which is two miles long and one broad, is interſected by a great number of ſtreets, croſſing each other at right angles. Of theſe there were originally 9, from the Delaware to the Schuylkill; theſe were interſected by 23 ſtreets running N. and S. The E. and W. ſtreets, except High Street, are named after trees, firſt found by the colony on their arrival in the country; viz. *Vine Street*, *Saſſafras*, *Mulberry*, *Cheſnut*, *Walnut*, *Spruce*, *Pine*, and *Cedar Streets*; which laſt is the S. boundary of the city. The ſtreets running N. and S. are named according to their numerical order, commencing at the Delaware. *Front Street* is the firſt, then *Second Street*, *Third Street*, &c. to *Thirteenth Street*; where this numerical order ceaſes, and another begins at Schuylkill in the ſame order, *Firſt Street*, *Second Street*, &c. to *Eight Street*; between which and Thirteenth Street is Broad Street, ſo named from being the broadeſt in the city. The number of squares in the original plan was 184; but as ſeveral of the ſquares have ſince been interſected by new ſtreets, the number in 1795 was 304; ſeveral of which are again interſected by lanes. In the breadth of the ſtreets there is a great diverſity; High Street being 100 feet wide; Broad Street and Mulberry Street 60, and all the other ſtreets in the original plan 50 feet wide. In the improved part of the city the ſtreets are paved with pebble ſtones in the middle, to the breadth of three fifths of the whole wideneſs; and on each ſide, the foot-paths are paved with bricks, and defended by posts, 10 or 12 feet diſtant from each other. In thoſe ſtreets which have been lately paved, the poſts have been removed, the foot-paths raiſed 8 or 10 inches, and defended in front next the ſtreet, by a range of hewn ſtone. There are ſeveral other conſiderable ſtreets, not in the original plan: as *Water Street*, *Dock Street*, *Front Street*, &c. Of theſe the two firſt are conſiderable; *Water Street* is 30 feet broad and extends to Pine Street parallel with the courſe of the Delaware. *Penn Street* is compactly built, with elegant and lofty houſes, ſome of them five ſtories high. From its convenience near the ſhipping it has become a place of conſiderable buſineſs. The wharves are made with ſquare caſes of logs, filled with earth and ſtones, and extend above two miles in front of the city and ſuburbs. *Dock Street*, which was originally a creek, and a general nuiſance, was not laid out till 1784; but is now a large and beautiful ſtreet, running in a ſerpentine courſe through 2 ſquares. It is from 90 to 100 feet broad, and has a row of Lombardy poplar trees on each ſide. The *ends* of all the ſtreets within the city are public property, being the places where the fire wood is kept, and have a revenue of L. 489 a-year. The ſtreets are illuminated at night by 662 lamps, which conſume annually 8,606 gallons of oil. The houſes, in general, are moſtly about 3 ſtories high, built with bricks, in a plain neat ſtyle. The height of the ground on which the city ſtands is about 40 feet above the Delaware, but ſome parts are lower, particularly Water Street, which is apt to be overflowed and the ſtores damaged in high floods, when a ſtrong E. wind blows. The houſes for public worſhip are 28; viz. 5 for Quakers; 6 for Preſbyterians and Seceders; 3 for Epiſcopalians; 3 for Roman Catholics; 2 for German Lutherans; 2 for Methodiſts; 1 for German Calviniſts; 1 for Swediſh Lutherans; 1 for Moravians; 1 for Baptiſts; 1 for Univerſaliſts; 1 for African Epiſcopalians; and a Jewiſh ſynagogue. Some of theſe are very elegant. The other public buildings are a ſtate-houſe, two city court-houſes, a county court-houſe, a jail, an univerſity, a public library, the Philoſophical Society's hall, a diſpenſary, an hoſpital, an alms-houſe, three incorporated banks, two theatres, an amphitheatre, an anatomical theatre and laboratory, 3 market-houſes, a fiſh-market, a houſe of correction, and a powder magazine; which often contains upwards of 50,000 quarter caſks of gun-powder. The State houſe ſtands on the S. ſide of Cheſnut Street, between Fifth and Sixth Street, and was erected in 1753. The State houſe ſquare is an elegant place, ornamented with trees, gravelled walks, &c. and ſurrounded by a high brick wall on three ſides, the houſe itſelf incloſing it on the 4th. The *Philadelphia Library* was incorporated in 1742, and in 1795 contained upwards of 12,000 vols. beſides a very valuable muſæum, and a philoſophical apparatus. The market-houſe in High Street extends from Front Street to Fourth Street, and is ſupported by 300 pillars. "It is perhaps (ſays Mr Joſ. Scott,) exceeded by none in the world, in abundance, neatneſs, and variety of proviſions expoſed in it." *(Unit. States Gazetteer.)* The *univerſity*, on the W. ſide of Fourth Street, was incorporated in 1791, and united with the old college, academy, charity ſchools, &c. in 1799. The whole number of ſtudents is about 510; of whom about 25 are graduated annually. The *American Philoſophical Society* was formed Jan. 2, 1769, and incorporated 15th March, 1780. Three volumes of their *Tranſactions* were publiſhed in 1771, 1796, and 1793. The *College of Phyſicians*, for promoting medical, anatomical, and chemical knowledge, was formed in 1781, and incorporated in 1789. And ſo much is literature of every kind cultivated by all ranks of people in this city, that an *annual fair for books* was eſtabliſhed, and commenced the 1ſt Tueſday of Sept. 1803. The city is provided with many public charitable inſtitutions, which are well managed. The ſtock of the public hoſpital, in 1793, was L. 17,065; beſides ſeveral valuable lots of ground, buildings, &c. The *Philadelphia Diſpenſary*, for medical relief to the poor, was inſtituted 12th April, 1786, and has proved very uſeful. The *Quaker's Alms-houſe* is another excellent charitable inſtitution. *Academies*, for inſtructing young ladies in all the branches of polite education, are numerous, and well conducted. *African Schools*, for the inſtruction and improvement of the children of the unfortunate race of Ham, have been alſo eſtabliſhed and produced good effects. There are alſo many humane ſocieties in this city; one for recovery of per-

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persons apparently drowned; another *for alleviating the miseries of prisons*, which has done much good; and a 3d entitled *The Pennsylvania Society for the Abolition of Slavery*, which was commenced in 1787, and was enlarged in 1794. There are also Societies for the relief of *German emigrants*; of *Irish emigrants*; of widows and families of Presbyterian clergymen; and one for the *assistance of emigrants* in general, instituted in 1794; besides many other similar humane institutions, too tedious to enumerate. The chief manufactures carried on in this city and suburbs are as follow: Ten rope-works which manufacture 800 tons of hemp annually; 13 breweries, which consume above 50,000 bushels of barley; 6 sugar houses; two rum distilleries, and one rectifying ditto; 15 earthen ware manufactories; 3 for cards; six for chocolate, 4 for mustard, 4 for nails, 1 for steel, 1 for aquafortis, sal ammoniac and glaubers salts; 1 for oil colours, 11 for brushes, 2 for buttons, 1 for parchment, 1 for Morocco leather; besides various private manufactories of guns, hats, cabinets, and various small wares, in gold, silver, copper, tin-plate, pewter, &c. There are also great numbers of paper mills, in the suburbs, which have encouraged printing so much, that there were 31 *printing-houses* in this city in 1795, 4 of which publish each a *Daily Gazette*, one of which is in the French language; besides two *Weekly Newspapers*, one of which is in the German language. The catalogues of books for sales contain upwards of 300 sets of Philadelphia editions from 1 vol. 12mo to 18 vols 4to, besides a greater variety of maps and charts than is to be found any where else in America. The trade of Pennsylvania is chiefly carried on from this city: (See PENNSYLVNAIA, § 16:) and there are few commercial towns in the world, where ships from Philadelphia may not be found in their ports. Upwards of 13 sailed in 1794 to China and the E. Indies; but the most extensive commerce is carried on with Great Britain and the W. India islands. The number of vessels entered at this port in 1793, was 1414, of which 477 were large ships. The number of houses, in 1794, was above 9,000 and 400 were building. The population, of the city, in 1794, was estimated at 55,000. Philadelphia is governed by a mayor and recorder, 15 aldermen, and 30 common council-men. The mayor is elected annually by the aldermen; the recorder every 7th year, by the mayor and aldermen, from among the citizens. The aldermen are chosen every 2d year, on the 1st Tues. in April; and the common council on the 2d Tues. in April, every 3d year, by the freemen; who also have the privilege of electing the members of the Assembly. The mayor, recorder, and aldermen are justices of the peace, and of oyer and terminer. They hold these courts quarterly. There are two annual fairs, besides the *Book fair* above mentioned, on the 27th May and 27th Oct. A supreme Federal Court is held here on the 1st Mon. in Febr. and Aug. A circuit court on the 11th of April, and a district court on the 2d Tues. in Feb. May, Aug. and Nov. In 1793, a malignant fever, called the *Yellow Fever*, (See MEDICINE, *Index*.) prevailed here and carried off 4042 of the inhabitants. Philadelphia is 97 miles SW. of New York, and 356 SW. of Boston. Lon. 75° 8′ 45″ W. L. 39° 56′ 54″ N.

(10.) PHILADELPHIA STONES, a name wh some authors have given to what is otherwise led *Christian bones*, found in the walls of that c It is a vulgar error that these walls are built bones; and the tradition of the country is, when the Turks took the place they fortifie for themselves, and built their walls of the b of the Christians whom they had killed there. Smyth, in one of his epistles, mentions this as an instance of Turkish barbarity. This opinion has gained credit merely from a loose porous stone of the sparry kind, found in an aqueduct, which is still in the wall. Sir Paul caut brought home pieces of these stones, w even he supposed to have been bones; but proved on examination to be various bodies, e ly vegetable, incrusted over and preserved in a of the nature of that which forms incrustatio Knaresborough spring, and other places with These bodies are often cemented together in siderable numbers by this matter, and their shape lost in the congeries, till a diligent an dicious eye traces them regularly.

(1.) PHILADELPHIAN, *adj.* Of or belo to Philadelphia.

(2.) PHILADELPHIAN SOCIETY, in eccles history, an obscure and inconsiderable soci mystics. They were formed about the end o 17th century by an English female fanatic, w name was *Jane Leadley*. This woman, sed by her visions, predictions, and doctrine, disciples, among whom were persons of ing. She believed that all dissensions among tians would cease, and the kingdom of the deemer become a scene of charity and fel if Christians, disregarding the forms of do or discipline of their several communions, all join in committing their souls to th of the internal guide, to be instructed verned and formed, by his divine impulse an gestions. But she went farther: she even tended a divine commission to proclaim th proach of this glorious communion of saints was convinced that the society established by self was the true kingdom of Christ. One leading doctrines was, that of the final resto of all intelligent beings to perfection and h ness.

PHILADELPHIANS, *n. s.* the natives o zens of one or other of the cities called Ph DELPHIA.

(1.) PHILADELPHUS, in antiquity, a tit furname of several ancient kings; from Greek φιλος, *lover*, and αδελφος, *brother*. PTOLEMY and EGYPT, § 12.

(11.) PHILADELPHUS, in botany, the TREE, or MOCK-ORANGE; a genus of the gynia order, belonging to the icosandria cl plants; and in the natural method, ranking der the 19th order, *Hesperideæ*.

1. PHILADELPHUS CORONARIUS, *white ga*, or *mock orange*, has been long cultivat the gardens of this country as a flowering sh it is not well known in what country it is found native. It rises 7 or 8 feet high; sen up a great number of slender stalks from

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Pilot Fish

Plate CCLXXIV.

Sea Pipes & Ears

Fig. 3.

Fig. 5.

Fig. 2.

Pinna

Fig. 6.

Fig. 4.

Fig. 7.

Fig. 6.

Fig. 1.

Fig. 3.

Patagonian Pinguin

Platalea *or Spoonbill*

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root. These have a grey bark, branch out from their sides, and are garnished with oval spear-shaped leaves. These last have deep indentures on their edges; their upper surface being of a deep green, but the under surface pale, with the taste of a fresh cucumber. The flowers are white, and come out from the sides and at the ends of the branches in loose bunches, each standing on a distinct foot-stalk: they have four oval petals, which spread open, with a great number of stamina with-in, surrounding the style. This shrub by its flowers makes a fine figure in May and June; for they are produced in clusters both at the end and from the sides of the branches. They are of a fine white colour, and exceedingly fragrant. The petals of which each is composed are large, and spread open like those of the orange; and then growing branches, which stand each on its own separate short footstalk, and being produced in plenty all over the shrub, both at once feast the eye and the smell. These flowers, however, are very improper for chimneys, water-glasses, &c. rooms; as their scent will be too strong. The *double-flowering syringa*, is a variety, seldom rising above a yard high. The leaves and branches are also proportionally smaller and more numerous, and the bark of the shoots of a lighter brown, than in the other. It sometimes produces flowers with 3 or 4 rows of petals; whence the name. They are much smaller than those of the other; and flourish only once in five years, which makes it really worth propagating. The *dwarf syringa* is of lower growth, seldom arising to more than two feet in height; and the branches and leaves are smaller and more numerous, and the bark is of a lighter brown. It never produces flowers.

2. PHILADELPHUS INODORUS, the *Carolina syringa*, with entire leaves, is a native of Carolina, and as yet but little known in Europe. It rises with a shrubby stalk of about 16 feet in height, sending out slender branches from the sides opposite, garnished with smooth leaves sharped like those of the pear tree, and standing on pretty long foot-stalks. The flowers are produced at the ends of the branches; and are large, white, spreading open, with a great number of short stamina with yellow summits. This is the tallest grower by far of the species, and makes the grandest show when in blow; though the flowers have no smell.

3. PHILADELPHUS NANUS, with oval leaves somewhat indented, and double flowers, seldom more above 3 feet; the flowers come out singly from the sides of the branches, and have a double or treble row of petals of the same size and form, as well as the same scent with N° 1.; but it flowers very rarely. The propagation of all the sorts is very easy. 1. The most certain method is by layers; for the young twigs being laid in the earth in winter, will be good rooted plants by autumn following. 2. These plants may be increased by cuttings, which being planted in October, in a shady moist border, many of them will grow; though it will be proper to let those of the Carolina sort remain until spring, and then to plant them in pots, and help them by a little heat in the bed. By this assistance, hardly one cutting will fail. 3. They may be also increased by suckers; for all the sorts throw out suckers, though the Carolina syringa the least of any. These will all strike root, and be fit for the nursery ground; nay, the double-flowering and the dwarf sorts are always increased this way: for these plants having stood 5 or 6 years, may be taken up and divided into several scores. All the plants, however, whether raised from layers, cuttings, or suckers, should be planted in the nursery to get strength, before they are set out for good. They should be planted a foot asunder, and the distance in the rows should be two feet. After this, they will require no other care than hoeing the weeds, until they have stood about two years, which will be long enough for them to stand there.

(1, 2.) PHILÆ, a town and island of Egypt, above the smaller cataract, but placed opposite Syene, by Pliny; v. c. 9.

(3.) PHILÆ, one of the SPORADES isles.

PHILÆNI, two brothers, citizens of Carthage, who sacrificed their lives for the good of their country. When the Carthaginians ruled over the greatest part of Africa, the Cyrenians were also a great and wealthy people. The country betwixt them was sandy, and of an uniform appearance. There was neither river nor mountain to distinguish their limits; which engaged the two nations in terrible and tedious wars. At last they agreed, "that upon a day appointed deputies should set out from their respective homes, and the place where they met one another should be accounted the common boundary of both nations." Accordingly, the Philæni, sent from Carthage, made all dispatch to perform their journey. The Cyrenians proceeded more slowly. These last, perceiving themselves behind, charged the Carthaginians with setting out before the time; and made a mighty bustle upon it. The Carthaginians then desired any other terms, on which the Greeks made this proposal to the Carthaginians, "either to be buried alive in the place which they claimed as the boundary to their nation, or that they would advance forward to what place they inclined upon the same condition." The Philæni accepting the offer, made a sacrifice of their lives to their country, and were buried alive. The Carthaginians dedicated altars in that place to the memory of the two brothers. These altars, called *Aræ Philænorum*, served as a boundary to the empire of the Carthaginians, which extended from this monument to Hercules's Pillars, which is about 2000 miles, or, according to the accurate observations of the moderns, only 1420 geographical miles. *Sallust de Bell. Jug.*

(1.) PHILÆUS, the son of Ajax by Lysidice, daughter of Coronus, one of the Lapithæ; and a lineal ancestor of MILTIADES.

(2.) PHILÆUS, the son of AUGEAS, K. of Elis, whom Hercules placed on the throne, after killing his father.

PHILANTHROPIC, *adj.* Belonging to philanthropy; benevolent to all mankind.

PHILANTHROPIST, *n. s.* A lover of mankind. *Ash.*

(1.) * PHILANTHROPY. *n. s.* [φιλεω and ανθρωπος.] Love of mankind; good nature.—Such

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a tranſient temporary good nature is not *philanthropy*. *Addiſon*.

(2.) PHILANTHROPY is of nearly the ſame import with BENEVOLENCE; and differs from *friendſhip*, as this laſt affection ſubſiſts only between individuals, whilſt *philanthropy* comprehends the whole ſpecies. Whether man has an inſtinctive propenſity to love his ſpecies, which makes him incapable of happineſs but in the midſt of ſociety, and impels him to do all the good that he can to others, feeling their felicity an addition to his own, is a queſtion that has been warmly debated among philoſophers, ever ſince metaphyſics was ſtudied as a ſcience. Among the philoſophers of the 17th century Hobbes took the unpopular ſide of this queſtion; inſiſting that man is naturally a ſelfiſh animal incapable of any generous principle. Lord Shafteſbury adopted the oppoſite ſide, and has been ſince followed by Bp. Butler, Hutcheſon, Lord Kames, Dr Beattie, Dr Reid, &c. who inſiſt that the whole duty of man reſults from an intuitive principle called the *moral ſenſe*, from which philanthropy is inſeparable. (See MORAL PHILOSOPHY.) On the other hand Mr Locke and his followers, particularly Mr Hartley deny that any one principle of the human mind is *intuitive* or *innate*. (See INSTINCT.) Without preſuming to decide this queſtion, the origin of philanthropy may be thus traced. Brothers and ſiſters being conſtantly together, contribute to each others amuſement: hence ariſes that pleaſure which they have in each other's company, and the uneaſineſs which they feel when ſeparated. This generates mutual love in their minds, which is ſtrengthened by the injunctions of their parents. Benevolence, thus generated, ſoon extends to their daily companions; and takes a wider range as theſe companions are multiplied, and as children advance towards the ſtate of manhood. New objects then preſent themſelves to the mind. A man ſoon diſcovers, that, as he is a member of a community, his happineſs as an individual depends in a great meaſure on the proſperity of the whole. Hence ariſes *patriotiſm*, and that pleaſure which we all take in the eminence of our countrymen. But the principle of benevolence ſtops not here. He whoſe mind is enlarged by a liberal education, conſiders all particular countries as provinces of one great country extended over the whole globe; and all mankind, of courſe, as not only ſharing the ſame nature with himſelf, but as being in reality his fellow-citizens and brethren. The principles of religion, if he be actuated by them, muſt aid theſe reflections, and make him with the happineſs of all who ſtand in the ſame relation with himſelf to the Great Governor of the world. This is *philanthropy*; and we ſee how it may ſpring, by the great law of aſſociation, from deſires which, in their original ſtate, cannot be conſidered as other than ſelfiſh. It is a calm ſentiment, which we believe hardly ever riſes to the warmth of affection, and certainly not to the heat of paſſion.

PHILELPHUS, Francis, profeſſor of eloquence at Padua, was born in 1398. In 1429, he was ſent by the republic of Venice to Conſtantinople, where he married the daughter of the learned Emmanuel Chryſoloras. The emp. John Paleologus ſent him to the emp. Sigiſmund to aſk aſſi ance againſt the Turks. He was very learne He died at Florence, in 1481. His works w printed at Baſil, in 1739, fol.

(1.) PHILEMON, a Greek comic poet, ſon Damon, and cotemporary with Menander. A advantage he had over this poet, was owing to his own merit than to the intrigues of friends. Plautus has imitated his comedy of *Merchant*. He is reported to have died laughin ſeeing his aſs eat figs. He was then abo years of age.

(2.) PHILEMON the younger, ſon of the a was alſo the author of 54 comedies, of which are ſtill extant conſiderable fragments collec Grotius. Theſe prove that he was not a p the firſt rank. He flouriſhed about A. A. C

(3.) PHILEMON, a rich citizen of Colo Phrygia, who was converted to the Chriſtian with Appia his wife, by Epaphras the diſci St Paul. (Coloſſ. ii. 1.) Perhaps we ſhou known nothing of St Philemon, had it not b account of his ſlave, ONESIMUS, who hav bed him, and run away from him, came to where he found St Paul, and was very ſer to him. St Paul converted him, baptize and ſent him back to his maſter Philem whom he wrote a letter ſtill extant, which for a maſterpiece of that kind of eloquen tural, lively, ſtrong, and pathetic, that wa liar to St Paul. Philemon (1, 2.) had church of his houſe, and all his domeſtics, as himſelf, were members. His charity, ty, and compaſſion, were a ſure refuge to were in diſtreſs. The Apoſtolical Conſ ſay, that St Paul made him biſhop of C but the Menæa inſinuate, that he went to in Paleſtine, of which he was the apoſtle biſhop. From thence he returned to C where he ſuffered martyrdom with his wi time of Nero.

PHILENE, a town of Attica, between and Tangara. *Stat. Theb.* iv, 102.

PHILEROS, a town of Macedonia. *Pl*

PHILETÆRUS, an eunuch, who wa governor of Pergamus by Lyſimachus, wh afterwards quarrelled with, and made himſ of that country, A. A. C. 283. (See PERG He reigned 20 years, and was ſucceeded nephew EUMENES I.

PHILETAS, a Greek poet and grammar the iſland of Cos, who flouriſhed under Phil Alexander the Great, and was preceptor of my Philadelphus. He was the author of Elegies, Epigrams, and other works, whi not extant. He is celebrated by Ovid an pertius, as one of the beſt poets of his age

PHILETUS, a man mentioned by St P his 2 Epiſtle to Timothy, ii. 16, 17, 18, with Hymenæus, as perſons who had erre denied the reſurrection. We have nothin certain concerning Philetus, but a fabulou by Abdias, in the life of St James ma or, following purpoſe. St James the ſon of Ze paſſing through the ſynagogues of Judea a maria, and preaching, Hermogenes and Ph ſtrenuouſly oppoſed him, affirming, that Chriſt was not the Meſſiah. Hermogenes

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stable magician, and Philetus was his disciple, who being converted, was desirous to bring his master to St James; but Hermogenes bound him so fo by his magic art, that he could not come at the apostle. But Philetus found means to make St James acquainted with what had happened to him; upon which St James unbound him, and Philetus came to him. Hermogenes perceiving how ineffectual his art was against the saint, became himself also a convert.

PHILIBEG, *n. s.* a little plaid, called also *kilt*. It is a sort of short petticoat reaching nearly to the knees, worn by the Scotch Highlanders. It is a modern substitute for the lower part of the plaid, being found to be less cumbersome, especially in time of action, when the Highlanders used to tuck their breechdan into their girdle. Almost all of them have a great pouch of badger or other skins, with tassels dangling before, in which they keep their tobacco and money.

PHILIDAS, a friend of PELOPIDAS, one of those who joined in the conspiracy to expel the tyrants from Thebes, and in whose house they met.

PHILINUS, a native of Agrigentum, who went along with Hannibal, against the Romans. He wrote a history of the Punic wars. *C. Nep.*

(1.) PHILIP, the apostle, was a native of Bethsaida in Galilee. His call by our Lord, his connexion with Nathanael; his presence at the miraculous feeding of 5000; with his estimate of the price; his introduction of the Greeks to our Saviour, and his request to see the Father, are recorded in the gospels, chiefly by St John. It is supposed that he and Nathanael were present at the marriage at Cana. The upper Asia fell to this apostle's lot, where he took great pains in planting the gospel, and by his preaching and miracles made many converts. In the latter part of his life he came to Hierapolis in Phrygia, a city addicted to idolatry, and particularly to the worship of a serpent of a prodigious bigness. St Philip by his prayers procured the death of this monster, and convinced its worshippers of the absurdity of paying divine honours to such odious creatures. But the magistrates, enraged at Philip's success, imprisoned him, and ordered him to be severely scourged, and then put to death, which some say was by crucifixion; others, by hanging him up against a pillar. St Philip is generally reckoned among the married apostles; and it is said he had three daughters, two of whom preserved their virginity, and died at Hierapolis; the third died at Ephesus. The pretended gospel under his name was forged by the Gnostics, to countenance their bad principles and worse practices. The Christian church observes his festival, with that of St James, on the first day of May. *Euseb.* l. iii. c. 30.

(2.) PHILIP, the 2d of the seven deacons, was chosen by the apostles after our Saviour's resurrection. (Acts vi. 5.) This deacon, they say, was of Cæsarea in Palestine. It is certain that his daughters lived in this city. (Acts xxi. 8, 9.) His preaching and miracles performed at Samaria; his conversion and baptism of the people; his interview with and conversion of the Ethiopian eunuch; with his subsequent baptism of him; and his preaching the gospel at Azotus and various other cities, are recorded by St Luke in the Acts of the Apostles. The modern Greeks say, that he went to Tralles in Asia, where he founded a church, of which he was the apostle and bishop; and where he rested in peace, after performing many miracles. The Latins, on the contrary, say that he died at Cæsarea, and that three of his daughters were there buried with him. It is thought, that the eunuch converted by St Philip was the first apostle of the Ethiopians; and the Abyssines boast of having received the Christian faith from him.

(3.) PHILIP I. King of Macedonia. See MACEDON, § 3.

(4.) PHILIP II. King of Macedon, was the 4th son of Amyntas II. He was sent to Thebes as an hostage by his father, where he learned the art of war under Epaminondas, and studied the manners and the pursuits of the Greeks. He discovered, from his earliest years, that quickness of genius and greatness of courage, which afterwards procured him so great a name. On the death of his brother Perdiccas III. he ascended the throne as guardian of his nephew Amyntas III. whom he got deposed, and succeeded about A. A. C. 360. The principal transactions of his life and reign being related under MACEDON, § 6—10, it is only necessary here to add a few characteristical anecdotes of him. He was the first who caused gold to be coined in his own name. He employed his wealth in procuring spies and partisans in all the great cities of Greece, and thus making conquests without the aid of arms. At the siege of Methone in Thrace, he received a wound in his right eye by an arrow; which was inscribed with the words; "*For Philip's right eye.*" After the archer, who shot it, had offered his services to Philip, boasting that he could hit the swiftest bird on the wing. Philip ridiculed his art by saying, that "he would be of use, if they were to make war with starlings;" which made After join the enemy, and take this method of revenge. By assuming the mask of a moderator and peace-maker, he gained confidence; in attempting to protect the Peloponnesians against the incroaching power of Sparta, he rendered his cause popular; and by ridiculing the insults offered to his person as he passed thro' Corinth, he displayed his moderation and philosophic virtues. In his attempts to make himself master of Eubœa, he was unsuccessful; and Phocion, who despised his gold as well as his meanness, obliged him to evacuate an island whose inhabitants were as insensible to the charms of money, as they were unmoved at the horrors of war, and the bold efforts of a vigilant enemy. From Eubœa he turned his arms against the Scythians; but the advantages he obtained over that indigent nation were inconsiderable, and he again made Greece an object of plunder and rapine. His behaviour after the battle of CHÆRONEA reflects great disgrace upon him as a man and as a monarch. In the hour of festivity, and during the entertainment he had given to celebrate his victories, Philip sallied from his camp, and with the inhumanity of a brute, insulted the bodies of the slain, and exulted over the calamities of the prisoners. His insolence, however, was checked,

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when Demades, one of the Athenian captives, exclaimed. "Why do you, O king, act the part of a *Therſites*, when you can repreſent with ſo much dignity the elevated character of an *Agamemnon*?" The reproof was felt; Demades received his liberty; and Philip learned to gain popularity even among his fallen enemies, by relieving their wants and eaſing their diſtreſſes. At the battle of Chæronea the independence of Greece was extinguiſhed; and Philip formed new enterprizes, and meditated new conqueſts, being appointed general of the Greeks againſt the Perſians. But he was ſtopped in the midſt of his warlike preparations, being ſtabbed by Pauſanias as he entered the theatre at the celebration of the nuptials of his daughter Cleopatra. This murder has given riſe to many conjectures. Many conſider the repudiation of Olympias and the reſentment of Alexander, as the cauſes. The ridiculous honours, which Olympias paid to her huſband's murderer, ſtrengthened the ſuſpicion againſt the queen; but Alexander declared that he invaded Perſia to revenge his father's death upon the Perſian princes, by whoſe intrigues the aſſaſſination had been committed. The character of Philip is that of a ſagacious, artful, prudent, and intriguing monarch; he was brave in the field, eloquent and diſſimulating at home, and he poſſeſſed the art of changing his conduct according to the caprices of mankind, without ever altering his purpoſe, or loſing ſight of his ambitious aims. He poſſeſſed much perſeverance, and in the execution of his plans he was always vigorous. He had that eloquence which is inſpired by ſtrong paſſions. His aſſaſſination prevented him from atchieving the greateſt of his undertakings; otherwiſe he might have acquired as many laurels, and conquered as many nations, as his ſon Alexander did; and Perſia might have been added to the Macedonian empire, perhaps with greater moderation, with more glory, and with more laſting advantages. The private character of Philip raiſes indignation. The admirer of his virtues is diſguſted to find him diſgracing himſelf among the moſt abandoned proſtitutes, as well as by the moſt unnatural crimes and laſcivious indulgences, which can make even the moſt proſligate to bluſh. He was murdered in the 47th year of his age, and the 24th of his reign, about 336 years before the Chriſtian era. His reign is intereſting, and his adminiſtration a matter of inſtruction. He is the firſt monarch whoſe life and actions are deſcribed with accuracy and hiſtorical faithfulneſs. Philip was the father of Alexander the Great and of Cleopatra, by Olympias; he had alſo by Audaca an Illyrian, Cyna, who married Amyntas the ſon of Perdiccas, Philip's elder brother; by Nicaſipolis a Theſſalian, Nicæa, who married Caſſander; by Philæna a Lariſſæan dancer, Aridæus, or PHILIP III. who reigned ſome time after Alexander's death; by Cleopatra, the niece of Attalus, Caranus and Europa, who were both murdered by Olympias; and Ptolemy, the firſt king of Egypt, by Arſinoe, who in the firſt month of her pregnancy was married to Lagus. Of the many memorable ſayings reported by Pluſtarch of this prince, the following are the moſt remarkable. Being preſent at the ſale of ſome captives, in an indecent poſture, one of them informed him of it; "Set this man at liberty, (ſaid Philip) I did not know that he was my friend." A poor woman had often importuned him to do her juſtice, but was told that he had no time to attend to her petition; whereupon ſhe ſaid with ſome warmth, "Ceaſe then to be a king." Philip felt the force of this reproof, and immediately gave her ſatisfaction.—Another woman came to aſk juſtice of him as he was going out from a great entertainment, and was condemned: "I appeal? exclaimed ſhe." "And to whom do you appeal, ſaid the king." "To Philip faſting." This anſwer opened the eyes of the monarch, who retracted his ſentence. If he poſſeſſed any virtue, it was that of ſuffering injuries with patience. Having learned that ſome Atheman ambaſſadors charged him, in full aſſembly, with atrocious calumnies: "I am under great obligations (ſaid he) to thoſe gentlemen, for I ſhall henceforwards be more circumſpect in my words and actions, that I may convict them of falſehood." One ſaying of Philip, however, does him leſs honour than thoſe above mentioned; viz. "Let us amuſe children with playthings, and men with oaths." This abominable maxim gave riſe to the obſervation, "That he was in full length, what Lewis afterwards was in miniature." It is well known that Philip had a perſon about him, who ſaid to him but at times, "Philip, remember that thou art mortal;" but whether we ſhould place this to the account of his pride or his humility, it is difficult to determine.

(5, 6.) PHILIP III. and IV. two ſhort lived monarchs of Macedonia. See MACEDON, § 16, 17.

(7.) PHILIP V. king of Macedon, was the ſon of Demetrius. His infancy, at the death of his father, was protected by Antigonus, one of his friends, who aſcended the throne, and reigned 12 years, with the title of *Independant*. When Antigonus died, Philip recovered his father's throne, though only 15 years of age. He early diſtinguiſhed himſelf by his bold and his ambitious views. He came to the throne the year 220 before our Saviour, and the beginning of his reign was rendered glorious by the conqueſts of Aratus; a general who was as much for his love of juſtice as his ſkill in war. So virtuous a character could hardly fail to be diſagreeable to a prince who indulged himſelf in every ſpecies of diſſipation and vice: and his cruelty to him ſoon diſplayed his character in its true light for to the gratification of every vice, he had the meanneſs to ſacrifice this faithful and virtuous Athenian. Not ſatisfied with Macedonia, Philip aſpired to become the friend of Annibal, to divide with him the ſpoils which the diſtreſſes of the Romans ſeemed to promiſe. But his expectations were fruſtrated; the Romans diſcovered his intrigues; and though weakened by the valour of the Carthaginian, they were ſoon enabled to oppoſe him in the field of battle. The conſul Lævinus entered Macedonia; obtained a victory over him near Apollonia, reduced his fleet to aſhes, and compelled him to ſue for peace. This was not permanent; and when the Romans diſcovered that he had aſſiſted their formidable enemy Annibal with men and money, they appointed T. Flamini-

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Flaminius to punish his perfidy. The Roman consul, in a general engagement, fought near Cynocephalæ, totally defeated the monarch, who saved his life by flight, and was obliged to demand peace by his ambassadors, which was granted with difficulty. In the midst of these public calamities the peace of his family was disturbed; and Perseus, the eldest of his sons by a concubine, raised suspicions of his brother Demetrius, whose condescension and humanity had gained popularity among the Macedonians, and who from his residence at Rome, as an hostage, had gained the good graces of the senate. Philip listened to the accusations of Perseus, that Demetrius wished to rob him of his crown. But no sooner was Demetrius sacrificed to credulity, than Philip became convinced of his rashness; and to punish the perfidy of Perseus, he attempted to make Antigonus, another son, his successor. But he was prevented by death, in the 42d year of his reign, A. C 178.

(9.) PHILIP, a native of Acarnania, physician to Alexander the Great. When that monarch was seen suddenly taken ill, after bathing in the river Cydnus, Philip undertook to remove the complaint, when the rest of the physicians believed that all medical assistance would be ineffectual. While he was preparing his medicine, Alexander received a letter from Parmenio, in which he was desired to beware of his physician Philip, as he had conspired against his life. The monarch was alarmed; and when Philip presented him the medicine, he gave him Parmenio's letter to peruse, and began to drink the potion. The serenity and composure of Philip's countenance, as he read the letter, removed every suspicion from Alexander's breast, and he pursued the directions of his physician, and in a few days recovered.

(10.) PHILIP, foster-brother of Antiochus Epiphanes (1 Macc. vi. 14, and 55. 2 Macc. ix. 29.), was a Phrygian by birth, and very much in Antiochus's favour. This prince made him governor of Jerusalem (2 Macc. viii. 8. v. 22.) where he treated the Jews very cruelly, to force them to abandon their religion. Seeing that Apollonius and Gorgias were defeated by Judas Maccabæus, he sent him succours to Ptolemy governor of Cœlosyria, who sent him Gorgias and Nicanor with a powerful army. Some time after, Antiochus going beyond the Euphrates, to extort money from the people, Philip went along with him; and Antiochus finding himself near his end (1 Macc. vi. 14.) made him regent of the kingdom, put his diadem into his hands, his royal cloak, and his signet, that he might render them to his son the young Antiochus Eupator. But Lysias having disputed the possession of the government in the name of young Eupator, who was but a child, Philip not thinking able to cope with him, durst not return into Syria; but he went into Egypt, carrying the body of Epiphanes along with him, to implore assistance from Ptolemy Philometor against Lysias the governor of the government of Syria. The year following, while Lysias was busy in the war carrying on against the Jews, Philip got into Syria, and took possession of Antioch: but Lysias returning into the country, with great diligence, retook Antioch, and put Philip to death, who was taken in the city.

(10, 11.) PHILIP, M. Julius, a Roman emperor of an obscure family in Arabia, from whence he was surnamed the *Arabian*. From the lowest rank in the army he gradually rose to the highest offices; and when he was made general of the pretorian guards, he assassinated Gordian to make himself emperor. To secure himself on the throne, he left Mesopotamia a prey to the continual invasions of the Persians, and hurried to Rome, where his election was approved by the senate and people. Philip rendered his cause popular by his liberality and profusion; particularly on occasion of the *centenary* commemoration of the foundation of the city; which was celebrated with more magnificence than under the preceding reigns. His usurpation, however, was short. Philip was defeated by Decius, who had proclaimed himself emperor in Pannonia; and he was assassinated by his own soldiers near Verona, in the 45th year of his age, and the 5th of his reign. His son, who had shared with him the imperial dignity, was also massacred in the arms of his mother. Young Philip was then in the 12th year of his age, and the Romans lamented in him the loss of rising talents, of natural humanity and endearing virtues.

(12.) PHILIP I. king of France, succeeded his father Henry I. in 1060, when only 8 years of age, under the guardianship of Baldwin V. count of Flanders, who discharged his trust with zeal and fidelity. He defeated the Gascons who were inclined to revolt, and died, leaving his pupil 15 years of age. This young prince made war in Flanders against Robert, Baldwin's younger son, who had invaded Flanders, which belonged to the children of his elder brother. Philip marched against him with a numerous army, which was cut to pieces near Mount Cassel; and the conqueror enjoyed his usurpation. Philip, after this, tired of his wife Bertha, and fond of Bertrade, wife of Folques count of Anjou, carried her off from her husband. Having, in 1093, annulled his own marriage, as well as Bertrade's with the count of Anjou, both under pretext of barrenness, Philip and she were married by the Bp. of Beauvais. This union was declared void by Pope Urban II. a Frenchman by birth, who pronounced the sentence in France, to which he had come for an asylum. Philip, fearing the pope's anathemas might excite his subjects to rebel, sent deputies to the pope, who obtained a delay, with permission to use the crown. This delay was not of long duration. Philip was excommunicated anew in a council held at Poitiers in 1100; but in 1104, Lambert bishop of Arras, legate of Pope Pascal II. at last brought him his absolution to Paris, after having made him promise never to see Bertrade more; a promise which he did not keep. It would appear that the pope afterwards approved their marriage; for their sons were declared capable of succeeding. Philip died at Melun the 29th of July 1108, aged 57. See FRANCE, § 22.

(13.) PHILIP II. surnamed *Augustus*, with other vain titles, (see FRANCE, § 24.) son of Lewis VII. and of Alix, his third wife, daughter of Thibault, count

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count of Champagne, was born the 22d Aug. 1165. He came to the crown, after his father's death in 1180, at the age of 15. The king of England seemed willing to take advantage of his minority, and to seize upon a part of his dominions. But Philip marched against him, and compelled him, sword in hand, to confirm the ancient treaties between the two kingdoms. As soon as the war was ended, he made his people enjoy the blessings of peace. He gave a check to the oppressions of the great lords, banished the comedians, punished blasphemies, caused the streets and public places at Paris to be paved, and annexed to that capital a part of the adjacent villages. It was inclosed by walls with towers; and the inhabitants of other cities were equally proud to fortify and embellish theirs. The Jews having for a long time practised the most shameful frauds in France, Philip expelled them from his kingdom, and declared his subjects quit with them; an action not justifiable. The tranquility of France was disturbed by a difference with the count of Flanders, which was terminated in 1184. Sometime after he declared war against Henry II. of England, and took from him the towns of Issoudun, Tours, Mans and other places. The epidemical madness of the crusades then agitated all Europe; and Philip caught the infection. He embarked in 1190, with Richard I. king of England, for the relief of the Christians in Palestine, who were oppressed by Saladin. These two monarchs sat down before Acre, the ancient Ptolemais; as did almost all the Christians of the east, while Saladin was engaged in a civil war on the banks of the Euphrates. Their forces, joined to those of the Asiatic Christians, were above 300,000 fighting men. Acre surrendered the 13th of July 1191; but the disagreement, which took place between Philip and Richard, did more mischief than could be compensated by 300,000 heroes. Philip returned to France, with a languishing disorder, which was attributed to poison, but which might have been occasioned merely by the scorching heat of a climate so different from that of France. He lost his hair, his beard, and his nails; his very flesh came off. The year after, he obliged Baldwin VIII. count of Flanders to leave him the county of Artois. He next turned his arms against Richard king of England, from whom he took Evreux and Vexin; though he had promised upon the gospels never to take any advantage of his rival during his absence. Philip, repulsed from Rouen with loss, made a truce for 6 months; during which he married Ingelburga, princess of Denmark, whose beauty could only be equalled by her virtue. The divorcing of this lady, whom he quitted to marry Agnes daughter of the duke of Merania, embroiled him with the court of Rome. The pope excommunicated him, but restored him upon his promising to take back his former wife. John succeeded to the crown of England in 1199, to the prejudice of his nephew Arthur, to whom of right it belonged. The nephew, supported by Philip, took arms against the uncle, but was defeated in Poitou, where he was taken prisoner, and afterwards murdered. The murderer, King John, being summoned before the peers of France, not having appeared, was declared guilty of his nephew's death, and condemned to lose his life in 1203. His lands, situated in France, were forfeited to the crown. Philip seized upon Normandy, carried his victorious arms into Maine, Anjou, Touraine, Poitou, and united those provinces once more to the crown of France. The English had no other part in France but the province of Guienne. To crown his good fortune, John was embroiled with the court of Rome. This ecclesiastical thunder was very favourable for Philip. Innocent II. transferred to him, a perpetual right to the kingdom of England. To give the greater force to the sentence, he employed a whole year in building ships, and in preparing the finest army that was ever seen in France. Europe was in expectation of a decisive battle between the two kings, while the pope laughed at both, and artfully took himself what he had bestowed upon Philip. The legate persuaded John to give his crown to the court of Rome. Then Philip was expressly forbid by the pope to make any attempt upon England, now become a fee of the Roman church or against John who was under her protection. Mean while, Philip's great preparations had alarmed all Europe; Germany, England, and the Netherlands were united against him. Ferrand count of Flanders, Philip's vassal, joined the emperor. Philip was not disconcerted; his valour conspicuous at the battle of Bouvines, on the 27th July 1214, which lasted from noon till night. Before the engagement, he had made even some of his nobles who followed him with reluctance zealous in his cause. The enemy had an army of 150,000 fighting men; that of Philip was not so numerous; but it was composed of the flower of his nobility. The king run great hazard of his life; for he was thrown down under the horses feet, and wounded in the neck. It is said 30,000 Germans were killed. The counts of Flanders and Boulogne were led to Paris in irons. The French king made no conquest on the side of Germany after this ever memorable action; but it gained him an additional power over his vassals. Philip conqueror of Germany, and possessor of almost all the English dominions in France, was invited to the crown of England by the subjects of King John who were grown weary of his tyranny. Upon this occasion he acted like an able politician. He persuaded the English to ask but Lewis for their king. Lewis made a descent into England, was crowned at London, and excommunicated at Rome in 1216. (See ENGLAND, 25, 26.) King John's death extinguished the resentment of the English, who, having delivered themselves for his son Henry III. forced Lewis to leave England. Philip died at Mantes, the 14th July 1223, aged 59, after a reign of 43 years. Of all the kings of the 3d race, he made the greatest accession to the crown lands, and transmitted the greatest power to his successors. He reunited to his dominions Normandy, Anjou, Maine, Touraine, Poitou, &c. After having subdued John, humbled the great lords, and by the overthrow of foreign and domestic enemies, took away the counterpoise which balanced his authority.

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was more than a conqueror; he was a great king and an excellent politician; fond of ſplendor on public occaſions, but frugal in private life; exact in the adminiſtration of juſtice: ſkilful in employing alternately flattery and threatenings, rewards and puniſhments; zealous in the defence of religion, and the church; but he knew well how to procure from her ſuccours for the ſtate. The enterprizes of Philip were almoſt always ſucceſsful; he formed his projects with deliberation, and executed them with diſpatch. He began by rendering the French happy, and in the end rendered them formidable; though he was more inclined to puniſh than to pardon, he was regretted by his ſubjects, as a great monarch, and as the father of his country.

(14—16.) PHILIP III, IV, and V. See FRANCE, 26, 27, 28.

(17.) PHILIP VI. the firſt king of France of the collateral branch of *Valois*, was ſon to Charles count of Valois, brother of Philip IV. He mounted the throne in 1328, on the death of couſin Charles IV. after having held the regency. France was much divided in the beginning of his reign, by diſputes about the ſucceſſion. Edward III. of England laid claim to it as ſon of Philip IV. by his mother; but Philip of Valois took poſſeſſion of it as firſt prince of the blood. He marched to the relief of his vaſſal the earl of Flanders, whoſe ſubjects, on account of impoſts, had taken up arms againſt him. He defeated the rebels at Caſſel, performed prodigies of valour, and gained a ſignal victory on the 24th of Aug. 1328. Having made all quiet, he devoted his time of peace to the internal regulations of his kingdom. The financiers were called to an account, and ſome of them condemned to death; among others Peter Remi, general of the finances, who left behind him near 20 millions. He afterwards enacted various laws reſpecting freeholds, *appeal comme d'abus*, &c. the principles of which are more ancient than the name. The year 1329 was diſtinguiſhed by a ſolemn homage done to Philip, by Edward III. of England, for the duchy of Guienne, upon his knees, and with his head uncovered. The interior peace of the kingdom was diſturbed by diſputes about the diſtinctions of the church and ſtate. This controverſy laid the foundation of all the diſputes afterwards raiſed about the authority of the two powers; which contributed to confine the eccleſiaſtical juriſdiction within narrower limits. Soon after Edward III. declaring war againſt France, he recovered ſeveral parts of Guienne, of which Philip was in poſſeſſion. The Fleminſh having again revolted from him, joined the ſtandard of Edward; and refuſed that he would aſſume the title of *king of France*, in conſequence of his claim to the crown; which, agreeably to the letter of their treaty, they only followed the *king of France*. From this period is dated the union of the flower-de-luce and leopards in the arms of England. Philip's affairs were at firſt attended with ſome ſucceſs; but thoſe advantages were far from compenſating the loſs of the battle of Ecluſe, in which the French fleet, conſiſting of 120 large ſhips, and manned by 40,000 ſeamen, was beat by that of England in 1340. This war, which had been alternately diſcontinued and renewed, began again with fury in 1345. The two armies having come to an engagement the 26th Aug. 1346, near Crecy, in Ponthieu, the Engliſh gained a ſignal victory. (See CRESSY.) The loſs of Calais, and ſeveral other places, was the fruit of this defeat. Some time before, Edward had challenged Philip of Valois to a ſingle combat; which he refuſed, not from cowardice, but from the idea that it was improper for a ſovereign prince to accept a challenge from a king who was his vaſſal. At length, in 1347, a truce for ſix months was concluded between France and England, and afterwards prolonged at different times. Philip died 23d Aug. 1350. He had, however, reunited Dauphiny to France. (See DAUPHINY.) Philip likewiſe added to his domain Rouſſillon and a part of Cerdagne, by lending ſome money to the king of Majorca, who gave him thoſe provinces as a ſecurity; provinces which Charles VIII. afterwards reſtored without any reimburſement. The fictitious and ideal value of the coin was alſo raiſed, a great deal of bad money was iſſued from the mint. The officers of the mint were ſworn upon the goſpels to keep the ſecret; but Philip was a fool to think that ſo groſs a fraud would not be diſcovered.

(18.) PHILIP I. king of Spain, was the ſon of the emperor Maximilian I. In 1490, he married Jane or Joan Q. of Spain, in whoſe right he obtained that crown. He died in 1506, aged 28; and was ſucceeded by his ſon Charles V. See SPAIN.

(19.) PHILIP II. ſon of Charles V. and Iſabella of Portugal, was born at Valladolid on the 21ſt of May 1527, and became king of Naples and Sicily by his father's abdication in 1554. He aſcended the throne of Spain on the 17th Jan. 1556. Charles had made a truce with the French, but his ſon broke it; and having formed an alliance with England, poured into Picardy an army of 40,000 men. The French were cut to pieces at the battle of St Quintin, on the 10th Aug. 1557. That town was taken by aſſault, and the day on which the breach was mounted, Philip appeared armed cap-a-pee to animate the ſoldiers. It was the firſt and laſt time that he ever wore this military dreſs. His terror was ſo great during the action that he made two vows; one, that he ſhould never again be preſent in a battle; and the other, to build a magnificent monaſtery to St Lawrence, to whom he attributed the ſucceſs of his arms, which he executed at Eſcurial, about 7 leagues from Madrid. The taking of Chatelet, Ham, and Noyon, were the only advantages derived from a battle which might have proved the ruin of France. The Duke of Guiſe repaired the diſgrace of his country by the taking of Calais and Thionville. While he was animating the French, Philip gained a battle againſt Marſhall de Thermes near Gravelines. His army was commanded by Count Egmont, whom he afterwards cauſed to be beheaded. He made no better uſe of the victory of Gravelines than he had done of that of St Quintin; but he reaped advantage from the peace of Chateau Cambreſis, the maſter-piece of his politics. By that treaty, concluded the 13th April, 1559, he gained poſſeſſion of Thionville, Marienbourg, Montmedi, Heſdin, and the county of Charolois.

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This war, so terrible, and attended with so much cruelty, was terminated, like many others, by a marriage. The monster took for his third wife Elizabeth, daughter of Henry II, who had been promised to *his own son*, Prince Charles! and the young prince and princess were deeply in love with each other. After these glorious atchievements, Philip returned in triumph to Spain, without having drawn a sword. His first care, upon his arrival at Valladolid, was to demand of the grand inquisitor an AUTO DA FE'. This was immediately granted to him; 40 wretches were strangled and burnt, and one of them was burnt alive. Don Carlos de Seza, one of these unfortunate victims ventured to draw near to the king, and said to him, "How, Sir, can you suffer so many wretches to be committed to the flames? Can you be witness of such barbarity without weeping?" To this Philip coolly replied, "If my own son were suspected of heresy, I would myself give him up to the severity of the inquisition. If an executioner were wanting, I would supply his place myself." On other occasions he conducted himself agreeably to this intolerant spirit. This horrid cruelty, and abuse of his power, had the effect to weaken that power. The Flemish, no longer able to bear so hard a yoke, revolted. The revolution began with the large provinces of the continent; but the maritime provinces only obtained their liberty. In 1579 they formed themselves into a republic, under the title of the UNITED PROVINCES. Philip sent the duke of Alba to reduce them; but the cruelty of that general only served to exasperate the insurgents. Never did either party fight with more courage, or more fury. Haerlem having surrendered at discretion, the conquerors caused all the magistrates, all the pastors, and above 1500 citizens, to be hanged. The duke of Alba, being at length recalled, the grand commander of the Requesnes was sent in his place, and after his death Don John of Austria; but neither of those generals could restore tranquillity in the Low Countries. To this son of Charles V. succeeded a grandson no less illustrious, namely, Alexander Farnese duke of Parma, the greatest man of his time; but he could neither prevent the independence of the United Provinces, nor the progress of that republic. Philip, always at his ease in Spain, instead of coming to reduce the rebels in Flanders, proscribed the Prince of Orange, and set 25,000 crowns upon his head. William, superior to Philip, disdained to make use of that kind of vengeance, and trusted to his sword for his preservation. In the mean time the king of Spain succeeded to the crown of Portugal, to which he had a right by his mother Isabella. This kingdom was subjected to him by the duke of Alba, in three weeks, in 1580. Antony, prior of Crato, being proclaimed king by the populace of Lisbon, had the resolution to come to an engagement; but he was vanquished, pursued, and obliged to fly for his life. A cowardly assassin, Balthazar Gerard, by a pistol-shot killed the Prince of Orange, and thereby delivered Philip from his most implacable and dangerous enemy. Philip was charged with this crime, without reason; though when the news was communicated to him, he was imprudent enough to exclaim, "If this blow had been given two years ago, the Catholic religion and would have gained a great deal by it." This mu der did not restore to Philip the Seven United Pr vinces. That republic, already powerful by se assisted England against him. Philip having res ved to distress Elizabeth, fitted out, in 1589, fleet of 150 ships, which were partly capture partly burnt, and partly ship-wrecked; and which very few returned. See ARMADA. T enterprise cost Spain 40 millions of ducats, 20 men and 100 ships. While Philip attacked E land, he was encouraging in France the H League; the object of which was to overturn throne and divide the state. The leaguers co red upon him the title of *Protector* of their a ation; which he eagerly accepted, from a pe sion that their exertions would soon conduct or one of his family, to the throne of Fra But Henry IV. embraced the Catholic relig and made his rival lose France in a quarter o hour. Philip, at length, exhausted by the baucheries of his youth, and the toils of go ment, drew near his last hour. A slow feve most painful gout, and a complication of disorders, could not disengage him from bu nor draw from him the least complaint. A exhausted by a complication of distempers being eaten up of lice, he expired the 13t 1598, aged 72, after a reign of 43 years months. No character was ever drawn b rent historians in more opposite colours tha of Philip. From the facts recorded in histo cannot doubt that he possessed, in an emin gree, penetration, vigilance, and a capac government. He entered into every branch ministration; watched over the conduct of nisters with unwearied attention; and in his both of them and of his generals discovere siderable sagacity. He never appeared to be elated or depressed. His temper was the m perious, and his looks and demeanor were ty and severe; yet among his Spanish subj was of easy access; listened patiently to the plaints; and where his bigotry did not in was willing to redress their grievances. It possible to suppose that he was sincere zeal for religion. But as his religion was most corrupt kind, it served only to incre natural depravity of his disposition; and pr ed, him to commit the most odious and inh crimes. Of the triumph of honour and hum over the dictates of superstition, there occu a single instance in the whole reign of Philip violated his most sacred obligations as often ligion afforded him a pretence, and exerci many years the most unrelenting cruelty w reluctance or remorse. His ambition, whic exorbitant; his resentment, which was impla his arbitrary temper, which would submit controul, concurred with his bigotted zeal Catholic religion, and carried the sanguina rit, which that religion was calculated to to a greater height in Philip, than it ever a in any other prince of that or of any othe Though of a small size, he had an agreeab son. His countenance was grave, his air tra and one could not discover from his looks joy in prosperity or chagrin in adversity. The

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gainſt Holland, France, and England, coſt Philip 564 millions of ducats; but America furniſhed him with more than the half of that ſum. His revenues, after the junction of Portugal, are ſaid to have amounted to 25 millions of ducats, of which he only laid out 100,000 for the ſupport of his own houſehold. Philip was very jealous of outward reſpect; he was unwilling that any ſhould look to him but upon their knees. Few princes have been more dreaded, more abhorred, or have ſhed more blood to flow, than Philip II. of Spain. He had ſucceſſively, if not all at once, war to maintain againſt Turkey, France, England, Holland, and almoſt all the Proteſtants of the empire, without a ſingle ally. Notwithſtanding ſo many millions employed againſt the enemies of religion, Philip found in his œconomy and his revenues wherewith to build 30 citadels, 64 fortified towns, 9 ſea ports, 25 arſenals, and as many palaces, without including the eſcurial. His debts amounted to 140 millions of ducats, of which, after having paid ſeven millions of intereſt, the greateſt part was due to the Genoeſe. He had ſold or diſſipated a capital ſtock of 100 millions of ducats in alms. He affected to be more than commonly devout; he eat often at the refectory with the monks; he never entered their churches without kiſſing all the relics; he cauſed kneed his bread with the water of a fountain which was thought to poſſeſs a miraculous virtue, and he boaſted of having danced. One great event of his domeſtic life is the death of his ſon Don Carlos. The manner of this prince's death is not certainly known. His body, which lies in the monument of the eſcurial, is there ſeparated from his head. The particulars of his crime are as little known; but we know of the matter is, that in 1568 the father, having diſcovered, or pretending to have diſcovered, that he had ſome correſpondence with the Hollanders his enemies, arreſted him in his own room. He wrote at the ſame time to Pius V, an account of his ſon's impriſonment; and in his letter to this pontiff, the 20th of July, 1568, he ſays, "that from his earlieſt infancy the ſtrength of a wicked nature has ſtifled in him every paternal inſtruction." Philip II. had the bible to be printed at Anvers, between 1569 and 1572, in 8 vols folio, the fine Polyglot Bible, which bears his name; and he ſubjected the iſlands which were called the PHILIPPINES. He married ſucceſſively, 1ſt, Mary daughter of John III. king of Portugal; 2dly, Mary daughter of Henry VIII. king of England; 3dly, Elizabeth of France, daughter of Henry II.; 4thly, Anne daughter of the emperor Maximilian II. Don Carlos was the ſon of his firſt wife.

PHILIP III. K. of Spain, ſon of Philip II. by his 4th queen, Anne of Auſtria, ſucceeded his father in 1598. He was an amiable prince but had not talents to qualify him to correct the errors of his father's government. He entruſted all his affairs to the management of the D. of Lerma; during whose adminiſtration a peace was made with England and a truce with the Dutch. He was guilty of a piece of great impolicy and injuſtice in expelling the Moors from Grenada, and the adjacent provinces; in conſequence of which a large tract of country was depopulated and has remained a deſert ever ſince. See SPAIN. Philip died in 1621.

(21.) PHILIP IV. K. of Spain, was born in 1605, and ſucceeded his father Philip III. in 1621. The war was renewed againſt the Dutch, who proved very ſucceſsful. Philip next entered into a war with France in which he was equally unfortunate. See SPAIN. He died in 1665, aged 60.

(22.) PHILIP V. D. of Anjou, the 2d ſon of Lewis, Dauphin of France, ſucceeded to the crown of Spain, by the laſt will of Charles II. in 1700. The houſe of Auſtria, being thus excluded from the ſucceſſion, entered into a war with Spain, and was ſupported by England. Lewis XIV. defended the right of his grandſon, and after a long ſtruggle, Philip was confirmed K. of Spain by the treaty of Utrecht, in 1713. In 1734, Philip invaded Naples, and wreſted that kingdom from the Imperialiſts, in favour of his ſon Pr. Charles. He died in 1746, and was ſucceeded by his ſon, Ferdinand VI.

PHILIPEAU, an iſland of N. America, in the NW. part of Lake Superior; 24 miles in circumference.

PHILIPOVA, a town of Ruſſia, in Irkutſk, on the Angara; 48 miles WSW. of Irkutſk.

PHILIPPEAU, or PHILYPEAUX, John Frederick, count of MAUREPAS, a French ſtateſman, born in 1701, and in 1715, at the age of only 14, appointed Secretary at court. In 1728, he became ſuperintendant of the marine, and in 1738 miniſter of ſtate, but in 1749, he was baniſhed to Bourges, by the intrigues of a lady at court. In 1774, he was recalled to the miniſtry by Lewis XVI, who placed great confidence in him. He was a man of profound learning, and great liberality; but has been blamed by the friends of the unfortunate houſe of Bourbon, for the advice he gave the king, to aſſiſt the American republicans to throw off their dependance on Great Britain. He did not live to ſee the conſequences, as he died in 1781.

PHILIPPEVILLE, a town of France, in the dep. of the Ardennes, anciently called Corbigny, till Mary of Auſtria fortified it, in 1577, and named it *Philippeville*, in honour of Philip II. of Spain. Its fortifications were renewed by Lewis XIV. It is 12 miles NW. of Givet, and 36 N. of Charleville.

PHILIPPI, in ancient geography, a town of Macedonia, in the territory of the Edones, on the confines of Thrace, ſituated on the ſide of a ſteep eminence; anciently called *Datum* and *Dravides* (*Appian*,) though Strabo ſeems to diſtinguiſh them. This town was famous on ſeveral accounts; not only as taking its name from the celebrated Philip II. of Macedon, who conſidered it as a fit place for carrying on the war againſt the Thracians; but alſo on account of two battles fought in its neighbourhood between Auguſtus and the republican party. In the firſt of theſe battles, Brutus and Caſſius had the command of the republican army; while Octavianus, afterwards Auguſtus, and Mark Antony, had the command of their adverſaries. The army of Brutus and Caſſius conſiſted of 19 legions and 20,000 horſe; the imperial forces of an equal number of legions, but more complete, and 13,000 horſe; ſo that the numbers on both ſides were

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were pretty equal. The troops of Brutus were very richly dreſſed, moſt of them having their armour adorned with gold and ſilver; for Brutus, though very frugal in other reſpects, was thus extravagant with reſpect to his men, thinking that the riches that they had about them would make them exert themſelves the more, to prevent theſe from falling into the enemy's hands. Both the republican generals appear to have been inferior in ſkill to Mark Antony; for as to Octavianus, he is allowed never to have conquered but by the valour of others. A little before the firſt engagement Octavianus, who had been indiſpoſed, was carried out of the camp, at the perſuaſion of Artorius his phyſician, who had dreamed that he ſaw a viſion directing him to be removed. Brutus's men, who oppoſed the wing commanded by Octavianus, charged without orders, which cauſed great confuſion. However, they were ſucceſsful; for part of them, taking a compaſs about, fell upon the enemy's rear: after which they took and plundered the camp, making a great ſlaughter of ſuch as were in it, and among the reſt putting 2000 Lacedemonians to the ſword who were newly come to the aſſiſtance of Octavianus. The emperor himſelf was ſought for, but in vain, having been conveyed away for the reaſon above-mentioned; and as the ſoldiers pierced the litter in which he was uſually carried, it was thence reported that he had been killed. This threw that whole part of the army into ſuch conſternation, that when Brutus attacked them in front, they were moſt completely routed; three whole legions being cut in pieces, and a prodigious ſlaughter made among the fugitives. But by the imprudence of the general in purſuing too far, the wing of the republican army commanded by Caſſius was left naked and ſeparated from the reſt of the army; on which they were attacked at once in front and in flank, and thus they were defeated and their camp taken, while Brutus imagined that he had gained a complete victory. Caſſius himſelf retired to an eminence at a ſmall diſtance from Philippi; whence he ſent one of his greateſt intimates to procure intelligence concerning the fate of Brutus. That general was on his way, and already in view, when the meſſenger ſet out. He ſoon met his friends; but they ſurrounding him to inquire the news, Caſſius, who beheld what paſſed, imagined that he was taken priſoner by the enemy, retired to his tent, and in deſpair cauſed one of his freedmen cut off his head. Thus far at leaſt is certain, that he went into the tent with that freedman, and that his head was found ſeparated from his body when Brutus entered. However, the freedman was never afterwards ſeen. The 2d engagement was pretty ſimilar to the firſt. Brutus again oppoſed Octavianus, and met with the ſame ſucceſs; but in the mean time Antony, to whom he ought undoubtedly to have oppoſed himſelf, having to do only with the lieutenants of Caſſius, gained a complete victory over them. What was worſt, the fugitives, inſtead of leaving the field of battle altogether, fled for protection to Brutus's army; where, crowding in among the ranks, they carried deſpair and confuſion wherever they went, ſo that a total defeat enſued, and the republican army was almoſt entirely cut in pieces. After the battle, Brutus put an end to his own life. See ROME. The city of Philippi is likewiſe remarkable on account of an epiſtle written by St Paul to the church in that place. It was a Roman colony. (Luke, Pain Coin, Inſcription.) It is alſo remarkable for being the birth-place of Adraſtus, the Peripatetic philoſopher, and diſciple of Ariſtotle.—The town is ſtill in being, and is an archbiſhop's ſee; but greatly decayed and badly peopled. However, there are an old amphitheatre, and ſeveral other monuments of its ancient grandeur. Lon. 44. 55. E. Lat. 40. N.

(1.) * PHILIPPICK. *n. ſ.* [from the invectives of Demoſthenes againſt Philip of Macedon.] An invective declamation.

(2.) PHILIPPICS, *n. ſ.* [φιλιππικοι λογοι,] in literature, a name which is given to the orations Demoſthenes againſt Philip II. king of Macedon. The Philippics are reckoned the maſter-pieces of that great orator: Longinus quotes many inſtances of the ſublime from them; and points out thouſand latent beauties. Indeed that part in which Demoſthenes excelled, the frequent interrogations and apoſtrophes wherewith he attacked the indolence of the Athenians, could be where better employed. Whatever delicacy may be in the oration againſt Leptines, the Philippics have the advantage over it, were it only on account of the ſubject, which gives Demoſthenes a fair a field to diſplay his chief talent, we with Longinus, that of moving and aſtoniſhing. Dionyſius Halicarnaſſeus ranks the oration of Haloneſe among the Philippics, and places it 8th in order: but though his authority be great, yet that force and majeſty wherein Cicero characteriſes the Philippics of Demoſthenes, ſeem to exclude the oration on the Haloneſe out of the number; and authoriſe the almoſt univerſal opinion of the learned, who reject it as ſpurious. Libanius, Photius, and others, but above all the quidneſs of the ſtyle, and the lowneſs of the expreſſions, which reign throughout the whole, whether it on Hegeſippus.

(3.) PHILIPPICS are likewiſe applied to the orations of Cicero againſt Mark Antony. Cicero himſelf gave them this title in his epiſtles to Brutus; and poſterity have found it ſo juſt, that it has been continued to our times. Juvenal, ſat. x. calls the 2d the *divine Philippic*, and ſpeaks of *conſpicuæ divina Philippica famæ*. That orator entitling his laſt and moſt valued orations after the Philippics of Demoſthenes ſhows the high opinion he had of them. Cicero's Philippics coſt him his life; Mark Antony having been ſo exaſperated with them, that when he arrived at the triumvirate, he procured Cicero's murder, cut off his head, and ſtuck it up in the very place where the orator had delivered the Philippics.

PHILIPPINA, a town of Mexico, in Guatimala, on a bay of the N. Pacific Ocean.

PHILIPPINE, a town of the imperial Netherlands republic, in the dep. of the Scheldt, and circle of the prov. of Auſtrian Flanders, ſeated on an arm of the Scheldt, and ſtrongly fortified. The Dutch ſeized it in 1633, and augmented its fortifications. In 1747, it was taken by the French, under Count Lowendal; but reſtored by the treaty of Aix la Chapelle. On the 23d Oct. 1794, it was taken

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the French republicans, under Gen. Michaud. It is 15 miles N. of Ghent, and 20 ENE. of Bruges.

PHILIPPINE ISLANDS, or PHILIPPINES, certain islands of Asia, which lie between 114 and 126 degrees of east longitude, and between 6° and 20° of N. lat. about 300 miles E. of China. They are said to be about 1200 in number, of which there are 400 very considerable. They form a principal division of that immense Indian Archipelago, which consists of so many thousand islands, some of which are the largest, and many of them the richest, in the world. The Philippines form the northernmost cluster of these islands, and were discovered in the year 1521 by the famous navigator Ferdinand Magellan, a Portuguese gentleman, who had served his native country both in the wars of Africa and in the East Indies; particularly under Albuquerque, the famous Portuguese general, who reduced Goa and Malacca to the obedience of that crown. Magellan having had a considerable share in those actions, and finding himself neglected by the government of Portugal, and even denied, as is said, the small advance of a ducat a month in pay, left the court of Portugal in disgust, and offered his services to Charles V. then emperor of Germany, and king of Spain, whom he convinced of the probability of discovering a way to the Spice Islands, in the East Indies, by the west; upon the command of five small ships being given him, he set sail from Seville, on the 10th of August 1519, and standing over to the coast of South America, proceeded southward to 52°, before he fortunately hit upon a strait, since called the STRAIT OF MAGELLAN, which carried him into the Pacific Ocean or South Sea, (See MAGELLAN, N° 2.) and then steering northward, passed the equator: after which, he stretched away to the west, across that vast ocean, till he arrived at Guam, one of the Ladrones, on the 6th of March 1521; and soon after sailed to the westward, and discovered the Philippines, which he called on St Lazarus's day; and, in honour of that saint, he called them the *Archipelago of St Lazarus*. He took possession of them in the name of the king of Spain, but was killed in a skirmish with the natives of one of them. His people, however, arrived afterwards at the Moluccas, or Spice Islands, where they left a colony, and returned to Spain by the way of the Cape of Good Hope; being the first persons that ever sailed round the globe. But there was no attempt made by the Spaniards to subdue or plant the Philippine Islands until 1564, in the reign of Philip II. son of Charles V. when Lewis de Velasco, viceroy of Mexico, sent Michael Lopez Delagaspes thither with a fleet, and a force sufficient to make a conquest of these islands, which he named the *Philippines*, in honour of Philip II. then king of Spain; and they remained under the dominion of that crown till taken by Sir William Draper. The Philippines are scarce inferior to any other islands of Asia in all the natural productions of that happy climate; and they are by far the best situated for an extensive and advantageous commerce. By their position, they form the centre of intercourse with China, Japan, and the Spice Islands; and whilst they are under the dominion of Spain, they connect the Asiatic and American commerce, and become a general magazine for the rich manufactures of the one, and for the treasures of the other. Besides, they are well situated for a supply of European goods, both from the side of Acapulco and by the way of the Cape of Good Hope. In fact, they formerly enjoyed a traffic in some degree proportioned to the peculiar felicity of their situation; but the Spanish dominion is too vast and unconnected to be improved to the best advantage. The trade of the Philippines is thought to have declined; its great branch is now reduced to two ships, which annually pass between these islands and Acapulco in America, and to a single port of Manila in the island of Luconia. Instead of taking Spanish manufactures, they trade with the Chinese for spices, silks, stockings, Indian stuffs, callicoes, chintz, and many other articles; and with the Japanese for cabinets, and all sorts of lacquered ware; for all which they pay in gold or silver. All these commodities, together with what the islands produce, and great quantities of wrought plate by the Chinese artisans, are collected at Manila, and transported annually in two ships to Acapulco in Mexico. Each of these ships is esteemed worth 600,000l. sterling; and in the war which began in 1739, and which was not distinguished by such a series of wonderful successes as that which ended in 1763, the taking of one of the galleons which carry on the trade between Manila and America, was considered as one of the most brilliant advantages which we gained. This trade is not laid open to all the inhabitants of Manila, but is confined by very particular regulations, somewhat analogous to those by which the trade of the register ships from Cadiz to the West Indies is restrained. The ships employed are all king's ships, commissioned and paid by him; and the tonnage is divided into a certain number of bales, all of the same size. Most of the religious are concerned in this trade, and sell to the merchants at a great price what room in the ship they are not to occupy. This trade is by a royal edict limited to a certain value, but it always exceeds it, each ship being generally worth 3,000,000 of dollars. The returns made from America are in silver, cochineal, sweetmeats, together with some European mahinery ware for the women, and some strong Spanish wine. It is obvious, that the greatest part of the treasure remitted does not remain at Manila, but is dispersed over India for goods. Many strong remonstrances against this Indian trade to Mexico have been made to the court of Spain, wherein they urge, that the silk manufactories of Valentia and other parts of Spain, the linens from Cadiz, and their other manufactories, are hurt in their sale in Mexico and Peru, by the Chinese being able to afford them goods of the same sort cheaper than they are able; that were this trade laid open, the whole treasure of the New World would centre in Spain, or with European merchants. At Cavite in this bay are a fort, a town, and a fine dock-yard, where these large galleons are built

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and repaired, and where they load and unload, together with all the other large ships that trade to this bay. The principal of the Philippine islands are Luconia or Manila, Tandago or Samul, Mindora, Marinduera, Luban, Paragoa, Panay, Negro's Island, Leyte, Bohel, Sibu, Boghu, Negros, St John, Xolo, and Mindanao. In most of these, the Spanish power prevails, and all are under the governor of Luconia; but there are some in which that nation has little authority, or even influence, such as Mindanao. The inhabitants of these islands consist of Chinese, Ethiopians, Malays, Spaniards, Portuguese, Pintados or Painted People, and Mestees, a mixture of all these. Their persons and habits resemble those of the several nations whence they derive their original; only, it is observable, that the features of the blacks of these islands are as agreeable as those of the white people. There is not a soil in the world that produces a greater plenty of all the necessaries of life; as appears by the multitude of inhabitants in the woods and mountains, who subsist almost entirely by the fruits of the earth, and the venison they take. Nor can any country appear more beautiful; for there is a perpetual verdure, and buds, blossoms, and fruit, are found upon the trees all the year round, as well on the mountains as in the cultivated gardens. Vast quantities of gold are washed down from the hills by the rains, and found mixed with the sand of their rivers. There are also mines of other metals, and excellent load-stones found here; and such numbers of wild buffaloes, that a good huntsman on horseback, armed with a spear, will kill 10 or 20 in a day. The Spaniards take them for their hides, which they sell to the Chinese; and their carcases serve the mountaineers for food. Their woods also abound with deer, wild hogs, and goats. Of the last, there is such plenty in one of these islands, that the Spaniards gave it the name of *Cabras*. Horses and cows have been likewise imported into these islands from New Spain, China, and Japan, which have multiplied considerably; but the sheep that were brought over degenerated. The trees produce a great variety of gums; one kind, which is the commonest, by the Spaniards called *brea*, is used instead of pitch; of the others some are medicinal, others odoriferous. In those islands are monkeys and baboons of a monstrous bigness, that will defend themselves if attacked by men. When they can find no fruit in the mountains, they go down to the sea to catch crabs and oysters; and that the oysters may not close and catch their paws, they first put in a stone to prevent their shutting close; they take crabs by putting their tail in the holes where they lie, and when the crab lays hold of it, they draw him out. There are also great numbers of civet-cats in some of the islands. The bird, called *tavan*, is a black sea fowl, something less than a hen, and has a long neck; it lays its eggs in the sand by the sea side, 40 or 50 in a trench, and then covers them, and they are hatched by the heat of the sun. The bird *juligan* builds her nest on the sides of rocks, as the swallows do against a wall; and these are the delicious BIRDS-NESTS so much esteemed. (See BIRDS NESTS, § 4.) The Spaniards have introduced several of the American fruits, the coa or chocolate nut particularly, which in ses so that they have no occasion now to im it from Mexico. Here is also the FOUNT TREE, from which the natives draw water; a kind of cane, by the Spaniards called ta which, if cut, yields fair water enough draught, of which there are plenty in the m tains, where water is most wanted. These i being hot and moist, produce many veno creatures, as the soil does poisonous herb flowers, which do not kill those who tou taste them, but so infect the air, that many ple die in the time of their blossoming. T range, lemon, and several other trees, bear a-year. A sprig, when planted, becomes and bears fruit in a year. The woods ar with trees, which yield more sustenance t than is to be found in almost any other p the world. These islands, however, beside inconveniences, are very subject to earthq which often prove very fatal. See MANI

(2.) PHILIPPINES, a religious society of women at Rome, so called from their tak Philip de Neri for their protector. (See N° 2.) The society consists of 100 poo who are brought up till they are of age married, or become nuns, under the direc some religious women, who teach them t write, and work, and instruct them in the of Christianity. They wear a white veil, black cross on their breasts.

(3.) PHILIPPINES, NEW, or PALAOS, TAOS, a cluster of islands, in the E. Indian between the Moluccas, the Old Philippin 1.) and the Ladrones, and between the e and the tropic of Cancer. They are abou all, but are little known to Europeans.

PHILIPPISTS, a sect among the Lut the followers of Philip Melancthon. strenuously opposed the *Ubiquists*, who his time; and the dispute growing still h ter his death, the university of Wittember espoused Melancthon's opinion, were c the Flacians, who attacked it, *Philippists*.

PHILIPPO, or ST PHILIPPO, a town cily, in the valley of Noto; 27 miles W tania.

PHILIPPOLI, PHILIPPOPEL, PHILIPPOPOLI, PHILIPPOPOLIS, } or FILIPPOPOLI, fiderable town o pean Turkey, in nia, on the where it becomes navigable; built by P of Macedonia. It is chiefly inhabited by G and lies 82 miles NW. of Adrianople, a WNW. of Constantinople. Lon. 24. 50. 42. 15. N.

PHILIP, ST. See NERI, N° 2.

(1.) PHILIPS, Ambrose, an English po descended from a very ancient family in Le shire. He was educated at St John's c Cambridge; where he wrote his pastorals, acquired him at the time so high a repu His next performance was, *The Life of Arc Williams*, written, according to Mr Cibb make known his political principles, the shop, who is the hero of his work, being a opponent to the high church measures.

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he quitted the univerſity, and came to London, he became a conſtant attendant at Button's coffee-houſe, where he became intimate with the moſt celebrated geniuſes of that age, particularly of Sir Richard Steele, who, in the firſt volume of his *Tatler*, inſerted a poem of Mr Philips's, called a *Winter Piece*, dated from Copenhagen, on which he beſtows the higheſt encomiums; and, indeed, ſo much juſtice is in theſe his commendations, that even Mr Pope himſelf, who had a fixed averſion for the author, while he affected to praiſe his other works, uſed always to except this. He wrote ſeveral dramatical pieces; *The Briton*, *Diſtreſſed Mother*, and *Humphrey Duke of Glouceſter*; all of which met with ſucceſs, and two of them is ſtill a ſtandard of entertainment at the theatres, being generally repeated ſeveral times every ſeaſon. Mr Philips's circumſtances were in general, not only eaſy, but affluent, from his being connected, by his political principles, with perſons of great conſequence. He was connected with Dr Hugh Boulter, afterwards archbiſhop of Armagh, the R. H. Richard Weſt, Eſq. lord chancellor of Ireland, biſhop Burnet, and the Henry Stevens, in writing a ſeries of papers called the *Free Thinker*, which were all publiſhed weekly by Mr Philips, in 3 vols. 12mo. In the reign of Queen Anne's reign, he was ſecretary to the Hanover club, a ſet of noblemen and gentlemen who had formed an aſſociation in honour of the ſucceſſion, and for the ſupport of its intereſts. Mr Philips's ſtation in this club, with the zeal ſhewn in his writings, recommended him to the favour of the new government. He was, ſoon after the acceſſion of king George I. put into the commiſſion of the peace, and appointed a commiſſioner of the lottery. And, on Dr Boulter's being made primate of Ireland, he accompanied that prelate acroſs St George's channel, where he had conſiderable preferments, and was elected a member of the Houſe of Commons, for Armagh. In 1748, having purchaſed an annuity for life of 200l. *per annum*, he came over to England the ſame year in 1748; but died ſoon after, at his houſe near Vauxhall, in Surry. "Of his perſonal character (ſays Dr Johnſon) all I have heard is, that he was eminent for bravery, and ſkill in horſes, and that in converſation he was ſolemn and pompous."

(2.) Philips, Catharine, a very ingenious lady, daughter of Mr John Fowler, merchant, born at London in Jan. 1631, and educated at Hackney. She married James Philips of the priory of Cardigan, Eſq. and went with the viſcounteſs of Kilmoreton into Ireland, where ſhe tranſlated Corneille's tragedy of Pompey into Engliſh, which ſeveral times acted there with great applauſe. She tranſlated alſo the 4 firſt acts of Horace, another tragedy of Corneille, the 5th being done by Sir John Denham. This excellent and amiable lady died of the ſmallpox in London, 22d June 1664, much and juſtly regretted; "having not (ſays Langbaine) any of her ſex her equal in poetry."

(3.) Philips, Fabian, was author of ſeveral treatiſes relating to ancient cuſtoms and privileges in England. He was born at Preſtbury in Glouceſterſhire, Sept. 28th, 1601. He ſtudied in the Inns of Chancery, and the Middle Temple, where he became learned in the law. In the civil wars, he was a bold aſſertor of the king's prerogative; and two days before Charles I. was beheaded, he wrote a proteſtation againſt the intended murder, and cauſed it to be printed, and affixed to poſts in all public places. He likewiſe publiſhed, in 1649, 4to, a pamphlet entitled, "*Veritas Inconcuſſa*; or King Charles I. no Man of Blood, but a Martyr for his People:" which was reprinted in 1660, 8vo. In 1653, when the courts of juſtice at Weſtminſter, eſpecially the Chancery, were voted down by Oliver's parliament, he publiſhed, "Conſiderations againſt the diſſolving and taking them away:" for which he received the thanks of William Lenthal, Eſq. ſpeaker of parliament. He was for ſome time filazer for London, Middleſex, Cambridgeſhire, and Huntingdonſhire; and ſpent much money in ſearching records, and writing in favour of the royal prerogative. The only reward he received, was the place of one of the commiſſioners for regulating the law, worth 200l. *per annum*, which only laſted two years. After the reſtoration, when the bill for taking away the tenures was depending in parliament, he wrote and publiſhed a book to ſhow the neceſſity of preſerving them, entitled, "*Tenenda non tollenda*; or, the Neceſſity of preſerving Tenures *in capite*, and by Knight's-ſervice, which were a great part of the *ſalus populi*, &c. 1660," 4to. In 1663 he publiſhed, "The Antiquity, Legality, Reaſon, Duty, and Neceſſity of Preemption and Pourveyance for the King," 4to; and afterwards many other pieces upon ſimilar ſubjects. He aſſiſted Dr Bates in his *Elenchus Motuum*. He died Nov. 17th, 1690, in his 89th year; and was buried at Twyford in Middleſex. He was a man well acquainted with records and antiquities; but his manner of writing is neither cloſe nor well digeſted. He publiſhed a political pamphlet in 1681, entitled, "*Urſa Major et Minor*; ſhowing that there is no ſuch Fear, as is factiouſly pretended, of Popery and arbitrary Power."

(4.) Philips, John, an eminent Engliſh poet, was born in 1676. He was educated at Winchester and Oxford. The firſt poem which diſtinguiſhed our author, was his *Splendid Shilling*, publiſhed in 1705. His next was *Blenheim*. In 1706, he finiſhed another poem upon *cyder*. He alſo wrote a Latin ode to Henry St John, Eſq. which is eſteemed a maſterpiece. He was contriving greater things; but his health failing, he was obliged to drop every thing but the care of it. This care, however, did not ſave him: for, after lingering a long time, he died at Hereford, Feb. 15, 1708, of a conſumption and aſthma, before he had reached his 33d year. He was interred in the cathedral of that city, and had a monument erected to his memory in Weſtminſter abbey, by Sir Simon Harcourt, afterwards lord chancellor, with an epitaph written by Dr Atterbury. He was one of thoſe few poets whoſe muſe and manners were equally excellent and amiable; in a very eminent degree.

(5.) Philips, John, another Engliſh poet, nephew

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phew of the celebrated Milton, who wrote ſeveral things, particularly ſome memoirs of his uncle; and part of Virgil Traveſtied.

(6.) PHILIPS, John, another Engliſh poet, cotemporary with the two preceding, who was the author of two political farces, both printed in 1716; 1. The Earl of Marr married, with the Humours of Jocky the Highlander. 2. The Pretender's Flight; or a Mock Coronation; with the Humours of the facetious Harry St John.

(7.) PHILIPS, Thomas, a learned Engliſh Catholic, born at Ickford, in Buckinghamſhire, in 1708, and educated at Louvain. He was afterwards ſent over as a miſſionary to England, where he publiſhed *a Letter to a Student in Divinity*, and other tracts. But the work, for which he is moſt celebrated, is his *Life of Cardinal Pole*, in 2 vols. 8vo. wherein he endeavoured to ſoften the harſh features of popery, and to waſh his church from her ſtains of blood and tyranny. Several Engliſh divines publiſhed anſwers to this work, particularly Dr Neve, Dr Gloſter Ridly, &c. Philips died at Leige, in 1774.

(1.) PHILIPSBURG, an imperial town of Germany, in the circle of the Upper Rhine. It is very ſtrong, and looked upon as one of the bulwarks of the empire. It is ſeated in a morafs, and fortified with 7 baſtions, and ſeveral advanced works. The town belonged formerly to the biſhop of Spire, and all the works of the fortifications to the empire; but as in the diviſion of the indemnities by Bonaparte, in Aug. 1802, that part of the ſecularized biſhopric of Spire, which lies on the E. bank of the Rhine was allotted to the *elector of Baden*, Philipſburg appears to be now the property of that prince. It has been ſeveral times taken and retaken, particularly by the French in 1734, when the duke of Berwick was killed at the ſiege; but it was rendered back the year following, in conſequence of the treaty of Vienna. It is ſeated on the river Rhine, over which there is a bridge, 7 miles ſouth of Spire, 22 SE. of Worms, and 40 NE. of Straſburg. Lon. 8. 33. E. Lat. 49. 12. N.

(2.) PHILIPSBURG, a town of New Jerſey, 35 miles W. of Morriſtown.

(3.) PHILIPSBURG, a town of New York, 25 miles N. of New York.

PHILIP'S ISLAND, St, an iſland in the S. Atlantic Ocean. Lon. 13. 25. E. Lat. 12. 22. S.

PHILIP'S LAND, St, an iſland of the Batavian republic, in the dep. of the Meuſe, and late prov. of Zealand; with a village of the ſame name, ſeparated by a narrow channel from the E. end of the iſle of Schowen.

PHILIP'S NORTON, a town of Somerſetſhire, with a market on Thurſday; 7 miles S. of Bath, and 104 W. of London. Lon. 2. 16. W. Lat. 52. 16. N.

PHILIPS, St, a town of Mexico, in Mechoacan, in a country abounding with cattle.

PHILIPSTADT, a town of Sweden, in Warmeland, in the midſt of a hilly country, abounding with iron mines, ſeated between two lakes, upon a ſmall river. It was built by Charles IX, and named after his ſon Philip. It was burnt in 1694; rebuilt, and again burnt in 1725; but again rebuilt. It is 20 miles NE. of Carliſtadt, and 140 NW. of Stockholm. Lon. 14. 10. E. Lat. 59. 30. N.

PHILIPSTHAL, or CREUTZBERG, a town of Germany in Heſſe-Hombeirg, 12 miles SW. of Muhl-hauſen, and 29 W. of Erfurt.

PHILIPSTON, or } a borough of Ireland
(1.) PHILIPSTOWN, } in King's County where the aſſizes are held. It ſent two members to the ci-devant Iriſh parliament. It is 15 miles N. of Kildare, 17 N. of Maryborough, and 25 SW. of Dublin. Lon. 7. 20. W. Lat. 53. 18.

(2.) PHILIPSTOWN, a township of New York in Dutcheſs County, on the E. bank of Hudſon River, 28 miles above New York. In 1795 contained 2079 inhabitants, of whom 347 were electors, and 25 ſlaves. It has a ſilver mine.

PHILIPVILLE, a town of France, in the late prov. of the North, and ci-devant prov. of Hainault, on an eminence; 25 miles SE. of Mons, and 125 N. by E. of Paris. Lon. 4. 24. E. Lat. 50. 7. N.

PHILISTÆA, in ancient geography, the country of the PHILISTINES; which lay along the Mediterranean, from Joppa to the bounds of Egypt, and extending to inland places not far from the coaſt. It is alſo called PALESTINA, (Joſh.) a name afterwards applied to the whole of the Holy Land. See PALESTINA.

PHILISTÆI, or } the people of Philiſtæa.
PHILISTIM, } led alſo *Caphtorim* and *Iſſtim*, originally from Egypt, and deſcended from Ham. (*Moſes.*) They expelled and deſtroyed the Hivites the ancient inhabitants, and occupied their country; that is, the region which retained the name of *Philiſtim*, in which that of *Caphtorim* is ſwallowed up.

PHILISTINES, } the ancient inhabitants of
PHILISTINI, } Paleſtine, well known in ſacred hiſtory. The people are ſometimes called in Scripture CHERETHITES and CAPHTORIMS. The earlier part of their hiſtory is, like that of many other nations, very obſcure and uncertain. The authors of the Univerſal Hiſtory tell us, that they were deſcended from the Caſluhim partly, and partly from the Caphtorim both from Mizraim the ſon of Ham, the ſon of Noah. Moſes tells us (Deut. xi. 23.) that they drove out the Avites. The Avites even to Azzah or Gazah, where they ſettled; but when this happened cannot be determined. But our learned authors are clearly of opinion, that the Caſluhim and Caphtorim, from whom the Philiſtines are deſcended, came originally from Egypt, and called the country where they had conquered by their own name. PALESTINE). Many interpreters, however, think that CAPHTOR was but another name for CAPPADOCIA, which they imagine to have been the original country of the Philiſtines. But Father Simon, in a particular diſſertation prefixed to the firſt book of Samuel, endeavours to ſhow that they were originally of the iſle of Crete. The reaſon which led him to think that Caphtor is the iſle of Crete are as follow: The Philiſtines were ſtrangers in Paleſtine, as appears in various parts of Scripture; ſuch as Gen. x. 14. Deut. ii. 23. Jer. xlvii. and Amos ix. 7. whence the Septuagint always tranſlate this name *Strangers*. Their proper name was Cherethites. See Ezekiel, xxv. 16.

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phaniah, ii. 5. and 1. Samuel xxx. 14. The kings of Judah had foreign guards called the *Cherethites* and *Pelethites*, who were of the number of the Philiſtines. (2 Sam. xv. 18.) The Septuagint, under the name *Cherethites*, underſtood the *Cretans*; and by *Che ith* they underſtood *Crete*. Beſides the Scripture ſays, that the Philiſtines came from the iſle of Caphtor. Now we ſee no land in the Mediterranean, wherein the marks whereby the Scripture deſcribes Caphtor and Chethim agree better than in the iſle of Crete. The name *Cretim* or *Cherethim* is the ſame with that of *Cappi*. The Cretans are one of the moſt ancient and celebrated people, who inhabited the iſlands of the Mediterranean. They pretended to have been produced originally out of their own ſoil. This iſland was well peopled in the time of the Trojan war. Homer calls it the iſland with hundred cities. The city of Gaza in Paleſtine went by the name of *Minoa (Steph. Byzant. in Gaza)*, becauſe Minos king of Crete coming into that country called this ancient city by his own name. Herodotus acknowledges that the Cretans were originally all barbarians, and did not come from Egypt. Homer ſays, that a different language was ſpoken in the iſle of Crete; that there were Achæans there, true or ancient Cretans, Pelaſgians, &c. The ancient Cretans are the ſame as the Chethites, the Pelaſgians as the Philiſtines or Pelethites of the Scripture: their language was the ſame with that of the Canaanites or Phœnicians, that is, of thoſe who were deſcended, as well as Canaan, from Ham, by Mizraim. (Gen. x. 6, 13, 14.) Their manners, arms, religion, and gods of the Cretans and Philiſtines were the ſame. The arms were bows and arrows. Dagon the god of the Philiſtines was the ſame as the Diktynna of the Cretans. But Mr Wells does not think theſe arguments convincing. He is of the ſame opinion with the authors of the Univerſal Hiſtory, who think Caphtor, the name of an old city of Egypt, a corruption of the ancient *Caphtor*. But whether they came from Crete, from Cappadocia, or Egypt, they had certainly been a conſiderable time in the land of Canaan, when Abraham came there, in the year of the world 2083. They were a very powerful people, were governed by kings, and in poſſeſſion of ſeveral conſiderable cities. Several of their kings then in power were called *Abimelech*. This race, however, was but of ſhort duration; for their monarchy was changed to an ariſtocracy of five lords, who were partly independent of each other, though they acted in concert for the common cauſe. This form of government was in ſucceeded by another race of kings, among whom the prevailing names were Ahuzzath and *Abimelech*. They were not comprehended in the number of nations devoted to extirpation, and whoſe territory the Lord had given to the Hebrews; nor were they of the accurſed ſeed of Canaan. However, Joſhua gave their lands to the Hebrews. (Joſh. xv. 45—47. Judg. iii. 2, 3.) But theſe conqueſts of Joſhua have been ill maintained, ſince under the judges, under Saul, and at the beginning of the reign of David, the Philiſtines oppreſſed the Iſraelites. Shamgar, Samſon, Samuel, and Saul, in turn made head againſt them, but did not reduce their power; and they continued independent down to the reign of David, who conquered them. They continued in ſubjection to the kings of Judah down to the reign of Jehoram, ſon of Jehoſhaphat; that is, for about 246 years. However, Jehoram made war againſt them and probably reduced them to his obedience again; as they revolted again from Uzziah, who kept them in ſubjection during his reign. (2 Chr. xxi. 16. and xxvi. 6, 7.) During the unfortunate reign of Ahaz, the Philiſtines made great havoc in the territories of Judah; but his ſon Hezekiah ſubdued them. (2 Chr. xxviii. 18. and 2 Kings xviii. 8.) Laſtly, they regained their full liberty under the later kings of Judah; and we find from the vengance denounced againſt them by the prophets Iſaiah, Amos, Zephaniah, Jeremiah, and Ezekiel, that they brought many hardſhips and calamities upon the children of Iſrael: for which cruelties God threatened to puniſh them. Eſarhaddon beſieged Aſhdod, and took it. (Iſa. xx. 1.) And according to Herodotus, Pſammeticus king of Egypt took the ſame city, after a ſiege of 29 years. There is great probability, that Nebuchadnezzar, when he ſubdued the Ammonites, Moabites, Egyptians, and other nations, bordering upon the Jews, reduced alſo the Philiſtines. After this, they fell under the dominion of the Perſians; then under that of Alexander the Great, who deſtroyed Gaza, the only city of Phœnicia that durſt oppoſe him. After the perſecution of Antiochus Epiphanes, the Aſmonæans ſubjected under their obedience ſeveral cities of the Philiſtines; and Tryphon gave to Jonathan Maccabæus the government of the whole coaſt of the Mediterranean, from Tyre as far as Egypt, which included all the country of the Philiſtines.

PHILISTIS, an ancient queen, whoſe coin is ſtill extant, but of whoſe life, reign, country and government, nothing is recorded, or can now be aſcertained. Her coin is alſo mentioned by Herodotus, which ſhows that ſhe muſt have flouriſhed before the time of that ancient hiſtorian, but nothing elſe is recorded by him reſpecting her. Mr Pinkerton thinks ſhe reigned in Sicily, and as a confirmation of this conjecture, mentions ſome inſcriptions of ΒΑΣΙΛΙΣΣΑΣ ΦΙΛΙΣΤΙΔΟΣ on the *Gradini* of the theatre at Syracuſe; but which do not appear to be older than the times of the Romans. Some authors think ſhe reigned in Malta or Corſica; but Mr Pinkerton does not think this probable.

PHILISTUS, an ancient hiſtorian, born in Syracuſe. He enjoyed the friendſhip of Dionyſius; but being afterwards exiled, he wrote a Hiſtory of Sicily, in 12 books, which was much admired. He was afterwards recalled, and ſent againſt the Syracuſians by Dionyſius the younger, but, being defeated, killed himſelf; A. A. C. 356. *Plut. Dion.*

PHILLIP ISLANDS, two iſlands in the S. Paciſic Ocean, diſcovered by Capt. Hunter, in 1791, and named after Arthur Phillip, Eſq. governor of New S. Wales. They are 5 miles aſunder, but almoſt joined by a long narrow ſand-bank, which projects above water, and reaches for about two thirds of the diſtance from the E. or largeſt iſland to the W. one, which is ſmalleſt. They are covered with ſhrubs, but have few tall trees, and the land

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is low. They have ſome inhabitants. The largeſt or eaſtmoſt iſland lies in Lon. 143. 3. E. Lat. 8. 6. N.

PHILLIS. See PHYLLIS.

PHILLYREA, MOCK PRIVET; a genus of the monogynia order, belonging to the diandria claſs of plants; and in the natural method, ranking under the 44th order, *Sepiariæ*. Each flower contains two males and one female. Some ſay there are 7 ſpecies, all ſhruby plants, and natives of France or Italy. Others reckon only 3 ſpecies, viz.

1. PHILLYREA ANGUSTIFOLIA, the *narrow-leaved phillyrea*, or *mock privet*, a deciduous ſhrub, native of Spain and Italy. This is of low growth ſeldom riſing higher than 8 or 10 feet. The branches are few and ſlender, but they are beautifully ſpotted with grey ſpots. The leaves ſtand oppoſite by pairs. They are long and narrow, ſpear-ſhaped, and undivided, of a deep green colour, and of a thick conſiſtence. The edges are entire, and they ſtand on ſhort footſtalks. The flowers make no ſhow. They are whitiſh, and grow in cluſters from the wings of the branches, in March; and are ſucceeded by ſmall round black berries. The varieties of this ſpecies are, the *roſemary phillyrea*, *lavender phillyrea*, STRIPED PHILLYREA, &c.

2. PHILLYREA LATIFOLIA, the *broad-leaved phillyrea*, or *mock privet*, a tall evergreen ſhrub, a native of the ſouth of Europe. It will grow to about 12 feet high. The branches are ſtrong and upright. The bark is of a grey colour, ſpotted with white, which has a pretty effect; and the leaves grow oppoſite by pairs. They are of a heart-ſhaped oval figure, of a thick conſiſtence, and a ſtrong dark green colour. Their edges are ſharply ſerrated, and they ſtand on ſhort ſtrong footſtalks. The flowers grow from the wings of the leaves in cluſters in March. They are of a kind of greeniſh-white colour, make no ſhow, and are ſucceeded by ſmall round black berries. There are 3 varieties; *viz.* the *ilex-leaved phillyrea*, the *prickly phillyrea*, and the *olive phillyrea* with ſlightly ſerrated edges.

3. PHILLYREA MEDIA, the *oval-leaved phillyrea*, or *mock-privet*, or the *media leaved phillyrea*, a tall evergreen ſhrub, native of the S. of Europe. It has alſo 3 varieties, *viz.* 1. the common *ſmooth-leaved phillyrea*. This plant grows to 12 or 14 feet high, and the branches are very numerous. The older branches are covered with a dark brown bark, but the bark on the young ſhoots is of a fine green colour. They are oval, ſpear-ſhaped, and grow oppoſite, by pairs, on ſtrong ſhort footſtalks. The flowers are produced in cluſters from the wings of the young branches. They are ſmall, and of a greeniſh-white colour; they appear in March, and are ſucceeded by berries, which are firſt green, then red, and black in autumn when ripe. 2. The *privet leaved phillyrea* grows to 10 or 12 feet high, and the branches are covered with a brown bark. The leaves a little reſemble the privet; they are of a fine green colour, and grow by pairs on the branches. They are of a lanceolate figure, and their edges are entire, or nearly ſo: for ſome ſigns of ſerratures ſometimes appear. The flowers grow in cluſters in March. They are whitiſh, and are ſucceeded by ſmall black berries. 3. The *olive leaved phillyrea* is the moſt beautiful of all the ſorts. It will grow to about 10 or 12 feet high; and the branches, which are not numerous, ſpread abroad in a free eaſy manner, which give the tree a fine air. They are long and ſlender, covered with a light brown bark, and on theſe the leaves ſtand oppoſite by pairs at proper intervals on ſhort footſtalks. They reſemble thoſe of the olive-tree, and are of a deliciful green. Their ſurface is exceeding ſmooth, their edges are entire, and the membrane of a thickiſh conſiſtence. The flowers are ſmall and white, and like the other ſorts make no ſhow. They are ſucceeded by ſingle roundiſh berries. All theſe ſpecies may be either propagated by ſeeds or layers. 1. By *ſeeds*. Theſe ripen in autumn, and ſhould be ſown ſoon after. The earth muſt be made fine; and if it is not naturally ſo dry, if ſome drift ſand be added, it will be much the better. The ſeeds for the moſt part remain until the ſecond ſpring before they come up; and if they are not ſown ſoon after they are ripe, ſome will come up even the third ſpring after. They muſt be ſown about an inch deep; and during the following ſummer ſhould be kept clear from weeds. After they are come up, the ſame care muſt be obſerved, and alſo watering in dry weather; and if the beds are hooped, and the plants ſhaded in the hotteſt ſeaſon, ſo much the better. But at the approach of winter they muſt be covered, and the beds covered with mats in the ſevereſt froſts, otherwiſe there will be danger of loſing the whole crop; for theſe trees, though they are very hardy when grown tolerably large, are rather tender whilſt ſeedlings. They ſhould remain in the ſeed-beds with this management for two ſummers; and then waiting for the firſt autumnal rains in Sept. or Oct. (and having prepared a piece of ground), they ſhould at that juncture be planted out, on which they will immediately ſtrike root. The diſtance from each other need be no more than a foot, if they are not deſigned to remain long in the nurſery. If there is a probability of their not being wanted for ſome years, they ſhould be allowed near double that diſtance; and every winter the ground in the rows ſhould be well dug, to break their roots, and cauſe them to put out freſh fibres, otherwiſe they will be in danger of being loſt when brought into the flowery quarters. 2. By *layers* they will eaſily grow. The autumn is the beſt time for this operation; and the young ſhoots are fit for the purpoſe. The beſt way of layering them is by making them at the joint; though they will often grow well with a twiſt being only made. When the gardener chooſes the method of twiſting a young branch for the layers, he muſt be careful to twiſt it at a joint ſo as only to break the bark; for if it be too much twiſted, it will die. But if it be gently twiſted, it will at the twiſted parts ſtrike root, and by autumn following as well as thoſe layers that had been ſlit, will have good root; the ſtrongeſt of which will be fit for planting where they are wanted to remain, whilſt the weaker and worſt rooted layers may be planted in the nurſery ground like the ſeedlings, and treated accordingly.

PHI

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PHILLYREASTRUM, a genus of plants in Lamarck's system of Botany; called MORINDA by Linnæus.

(1.) PHILO, an ancient Greek writer, who was of a noble family among the Jews, and flourished at Alexandria during the reign of Caligula; to whom he was sent at the head of an embassy from the Jews, to defend them against Apion, A. D. 42. The best edition of his works was published at London in 1742 by Dr Mangey in 2 vols. fol. For further particulars respecting this celebrated man, see Joseph. *Antiq. Eusebius's Eccl. Hist.* St Jerome *de Script. Eccles. Fabr. Bibl. Græc. Cave Lister.* and *Mon. of the Greek Church*, vol. 2.

(2.) PHILO, a native of Byblos, a grammarian, flourished in the 1st century, and acquired celebrity by his works; the chief of which is *Sanchoniathon's History of Phœnicia*, which he translated into Greek. Some fragments are extant.

(3.) PHILO, a celebrated architect and writer of Byzantium, who flourished about A. A. C. 200. He wrote a treatise on *Machines used in War*, which is extant, in the *Mathematici Veteres*, 1693, 8vo. There is also ascribed to him, but on dubious grounds, a work, entitled, "*De vii Orbis Spectaculis; Romæ*, 1640.

PHILOBŒOTUS, a mountain of Bœotia.

PHILOCHORUS, an ancient Greek historian, wrote a history of Athens in 17 books, which have come down to us. He died A. A. C. 222.

PHILOCLES, an admiral of the Athenian fleet in the Peloponnesian war. He recommended his countrymen to cut off the right hand of all the enemies as were taken, that they might be rendered unfit for service. His plan was opposed by all the ten admirals except one; but his expectations were frustrated, and instead of being conquerors they were totally defeated at Ægospotamos by Lysander, and Philocles was put to death with the rest of his colleagues. *Plut.*

PHILOCRATES, an ancient author, who wrote a History of Thessaly. *Lempriere.*

PHILOCTETES, in fabulous history, the son of Pœas, was the faithful companion of Hercules; and for this death obliged him to swear not to discover the place where his ashes were interred, and to avenge him with his arrows dipped in the Hydra's blood. The Greeks at the siege of Troy were informed by an oracle that they could never take that city without those fatal arrows, which obliged Philoctetes, and insisted upon his discovering where he had left his friend; when Philoctetes to evade the guilt of perjury, let them know where Hercules was intombed, by stamping on the place: but he was punished for the breach of his oath, by dropping an arrow upon his foot; which, after giving him great agony, at length cured by Machaon. He was afterwards taken by Ulysses to the siege of Troy, where he killed Paris with one of his arrows.

PHILOCYPRUS, a king of Cyprus, in the age of Solon, by whose advice he changed the situation of a city, which, in gratitude to the Athenian legislator he named SOLI.

PHILOLAUS, of Crotona, a celebrated philosopher of antiquity, of the school of Pythagoras, to whom that philosopher's *Golden Verses* have been ascribed. "He was (says Dr Enfield) a disciple of Archytas, and flourished in the time of Plato. It was from him that Plato purchased the written records of the Pythagorean system. Interfering in affairs of state, he fell a sacrifice to political jealousy. Philolaus treated the doctrine of nature with great subtlety, but with great obscurity; referring every thing that exists to mathematical principles. He taught, that reason, improved by mathematical learning, is alone capable of judging concerning the nature of things; that the whole world consists of infinite and finite; that number subsists by itself, and is the chain which by its power sustains the eternal frame of things; that the Monad is not the sole principle of all things, but that the Binary is necessary to furnish materials from which all subsequent numbers may be produced; that the world is one whole, which has a fiery centre, about which the ten celestial spheres revolve, heaven, the sun, the planets, the earth and the moon; and the sun has a vitreous surface, whence the fire diffused through the world is reflected, rendering the mirror from which it is reflected visible; that all things are preserved in harmony by the law of necessity; and that the world is liable to destruction both by fire and by water. From this summary of the doctrine of Philolaus it appears probable, that, following Timæus, whose writings he possessed, he so far departed from the Pythagorean system as to conceive two independent principles in nature, God and Matter, and that it was from the same source that Plato derived his doctrine upon this subject."

* PHILOLOGER. *n. s.* [φιλολογος.] One whose chief study is language; a grammarian; a critick. —*Philologers* and critical discourses will not be angry with our narrower explorations. *Brown.*—You expect, that I should discourse of this matter like a naturalist, not a *philologer*. *Boyle.*—The best *philologers* say, that the original word does not only signify domestick, as opposed to foreign, but also private, as opposed to common. *Spratt's Sermons.*

* PHILOLOGICAL. *adj.* [from *philology*.] Critical; grammatical.—Studies, called *philological*, are history, language, grammar, rhetorick, poesy and criticism. *Watts.*—He who pretends to the learned professions, if he doth not arise to be a critick himself in *philological* matters, should frequently converse with dictionaries, paraphrasts, &c. *Watts.*

* PHILOLOGIST. *n. s.* See PHILOLOGER. A critick; a grammarian.

PHILOLOGY.

DEFINITIONS *and* OBJECTS *of* PHILOLOGY.

PHILOLOGY is thus briefly defined by Dr JOHNSON:

* PHILOLOGY. *n. s.* [φιλολογια; *philologie*, Fr.] Criticism; grammatical learning. See PHILOLOGICAL.—Temper all discourses of *philology* with interspersions of morality. *Waller.*

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PHILOLOGY is compounded of φιλος, *a lover*, and and λογος, *a word*, and imports *the desire of investigating the properties and relations of words*. The sages of Greece were, in the most ancient times, denominated Σοφοι, that is, *wise men*. Pythagoras renounced this pompous appellation, and assumed the more humble title of φιλοσοφος, that is, *a lover of wise men*. The learned Greeks were afterwards called *philosophers*; and in process of time, the word *philologer* was adopted, to import, "a man deeply versed in languages, etymology, antiquities, &c." Hence the term PHILOLOGY.

Though philology originally denoted only the study of words and language, it gradually acquired a more extensive signification. It comprehended the study of grammar, criticism, etymology, the interpretation of ancient authors, antiquities; and, in a word, every thing relating to ancient manners, laws, religion, government, language, &c.

Most of the branches of philology have been already treated of, under the various heads of COMPARISON, § III; CRITICISM; DESCRIPTION, ETYMOLOGY, FIGURE, § VI; GRAMMAR, under ENGLISH LANGUAGE; LANGUAGE; METAPHOR, § 2; NARRATION, § 3; ORATORY, POETRY, &c. There still remains one part, which has been either slightly touched upon, or totally omitted, under the foregoing topics: we mean, the nature and complexion of the different languages, at least of the civilized world. But to enter upon an investigation of the languages of barbarous nations, or even of those of the half civilized nations of India, Persia, Turkey, &c. would answer no object of inquiry, or utility to the great majority, if not the whole, of our readers. But it may be equally useful and entertaining even to the most unlearned to give a general historical view of the origin and progress of Language from the earliest period of time. In doing this, we shall chiefly follow the ingenious Dr DOIG of Stirling.

SECT. I. HISTORY OF LANGUAGE.

"WHAT was the antediluvian language, (says Dr Doig) or whether it was divided into a variety of dialects as at this day, can only be determined by the rules of analogy; and these will lead us to believe, that whatever might have been the primitive language of mankind, if human nature was then constituted as it is at present, a great variety of dialects must of necessity have sprung up in the space of near 2000 years. If we adopt the Mosaic account of the antediluvian events, we must admit, that the descendants of Cain for some ages lived separated from those of Seth. Their manner of life, their religious ceremonies, their laws, their form of government, were probably different, and these circumstances would of course produce a variety in their language. The posterity of Cain were an inventive race. They found out the arts of metallurgy, music, upholstery, and therefore probably weaving; and doubtless many other articles conducive to the ease and accommodation of life were the produce of their ingenuity. A people of this character must have paid no small regard to their words and modes of expression. Whenever music is cultivated, language will naturally be improved and refined. When new inventions are introduced, a new race of words and phrases of necessity spring up, corresponding to the recent stock of ideas to be intimated. Besides among an inventive race of people, new vocables would be continually fabricated, to supply the deficiencies of the primitive language, which was perhaps scanty in words, and its phraseology unpolished. The Cainites, then, among their other improvements, cannot well be supposed to have neglected the cultivation of language.

"Many conjectures have been hazarded by ancient and modern authors with respect to the origin of writing; an art nearly connected with that of speaking. According to Pliny, "the Syrian letters had always existed; some imagine that letters had been invented by the Egyptian Mercury; others ascribed the honour of the invention to the Syrians." Some think, and particularly learned Dr DAVID DOIG of Stirling is of opinion that "letters were an antediluvian invention, preserved among the Chaldeans, or Assyrians, who were the immediate descendants of Noah, and inhabited those very regions in the neighbourhood of which the ark rested, and where that patriarch afterwards fixed his residence." But the most probability appears to be, that letters were not invented for several centuries after the flood; some writings either *antediluvian* or very soon after the flood would have been preserved, as the books of Moses are beyond controversy the most ancient writings extant, the opinion of those who think that he either was the inventor of alphabetical characters, or that they were invented a short time before the period in which he lived, is at least highly probable. See ALPHABETICAL CHARACTER, § 1—5; and ANTEDILUVIANS, § 9. "The descendants of Seth, (says Dr Doig,) according to the oriental tradition, were chiefly addicted to agriculture and tending of cattle. They employed a great part of their time to the exercises of religion and devotion. From this circumstance they came to be distinguished by the title of the *sons of God*. According to this description, the Sethites were a simple unimproved race of people till they intermarried with the race of Cain; after which period they soon once adopted the improvements and the manners of that wicked family.

"All the descendants of Seth, however, were not mingled with the Cainites. That family from which Noah was descended had not incorporated with the race of Cain: it was, according to the sacred historian, lineally descended from Seth, who had preserved the worship of the true God. But it is probable, the greatest part of mankind had apostatised and become idolaters. Along with the true religion, the progenitors of Noah had preserved that simplicity of manners and purity of character, which had distinguished their pious ancestors. Agriculture and rearing cattle were their favourite occupations. Accordingly we find that the patriarch Noah, immediately, "after the deluge," became a husbandman, and "planted a vineyard." The chosen patriarchs, who doubtless imitated their pious ancestors, were shepherds and employed in rearing and tending cattle. Indeed there are strong presumptions that the

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lans, Aſſyrians, Syrians, Canaanites, and Arabians, in the earlieſt ages followed the ſame profeſſion.

"From this deduction, we imagine it is at leaſt probable, that the anceſtors of Noah perſiſted in the obſervance of the ſame ſimplicity of manners which had been handed down from Adam to Seth, and from him to Enoch, Methuſelah, Lamech, and from this laſt to Noah. According both to ſcripture and tradition, innovations were the produce of the Cainites, while the deſcendants of Seth adhered to the primitive patriarchal inſtitutions.

"If theſe premiſes are allowed to be probable, we may juſtly infer, that the language of Noah differed very little from that of Adam; (See LANGUAGE, *Sect.* III.) and that if it is poſſible to aſcertain the language of the former, that of the latter will of courſe be diſcovered. Whatever may have been the dialect of Noah and his family, that dialect, according to the Moſaic account, muſt have obtained, without any alteration, till the æra of the building of the tower of Babel.—On this occaſion a dreadful convulſion took place: the language of mankind was confounded, and men were *ſcattered abroad upon the face of all the earth.*

"How far this cataſtrophe extended, we cannot determine. One thing is certain, that the languages of all the nations who ſettled near the ſeat of population were but ſlightly affected by the influence. Strabo has obſerved, that 3000 years after, the inhabitants of thoſe countries exhibited a very ſtrong reſemblance of cognation, both in their *language*, manner of living, and the ornaments of their bodies," and that "the reſemblance in all thoſe particulars was moſt remarkable among the inhabitants of Meſopotamia."

"It appears, then, that the languages of the Arabians, Syrians, Aſſyrians, Arabians, and probably the Canaanim, did not ſuffer materially by the confuſion of tongues. This obſervation may be extended to many of the dialects ſpoken by the people, who ſettled in thoſe countries not far diſtant from the region where Moſes has fixed the original ſeat of mankind after the deluge. The inference then is, that if Noah and his family ſpoke the original language of Adam, as they moſt probably did, the judgment which affected the confuſion of tongues did not produce any conſiderable alteration in the language of ſuch of the deſcendants of Noah, as ſettled near the region where that patriarch had fixed his reſidence after he quitted the ark.

"But ſuppoſing the changes of language produced by the cataſtrophe at the building of the tower as conſiderable as has ever been imagined, it does not, after all, appear certain that all mankind without exception were engaged in this impious project. If this aſſertion be well founded, the conſequence will be, that there was a chooſen race who did not engage in that enterpriſe. If there was ſuch a family, ſociety, or body of men, it will follow, that this family, ſociety, &c retained the language of its great anceſtor without change or variation. That ſuch a family did actually exiſt, is highly probable, for the following reaſons:

"1. We think there is reaſon to believe, that Ham, upon the heavy curſe denounced upon him by his father, retired from his brethren, and fixed his reſidence elſewhere. Accordingly, we find his deſcendants ſcattered far and wide, at a very great diſtance from the Gordyæan mountains, where the ark is generally ſuppoſed to have reſted immediately after the flood. Some of them we find in Chaldea, others in Arabia Felix, others in Ethiopia, others in Canaan, and others in Egypt; and, finally, multitudes ſcattered over all the coaſt of Africa. Between thoſe countries were planted many colonies of Shemites, in Elam, Aſſyria, Syria, Arabia, &c. We find, at the ſame time, the deſcendants of Shem and Japheth ſettled, in a great degree, contiguous to each other. This diſperſion of the Hamites, irregular as it is, can ſcarce, we think, have been accidental; it muſt have been owing to ſome uncommon cauſe, and none ſeems more probable than that aſſigned above. If, then, the deſcendants of Ham ſeparated early, and took different routs, as from their poſterior ſituations it appears they did, they could not all be preſent at the building of the tower.

"It is not probable, that the deſcendants of Shem were engaged in this undertaking, ſince we find that they were not *ſcattered abroad upon the face of all the earth.* The children of Shem were Elam, Aſhur, Arphaxad, Lud, and Aram. Elam ſettled near the mouth of the river Tigris, in the country which, by the Gentile writers, was called *Elymais*. Above him, on the ſame river, lay the demeſne of Aſhur on the weſtern ſide. In like manner, upon the ſame river, above him was ſituated Aram, who poſſeſſed the country of Aramea; and oppoſite to him was Arphaxad, or Arbaces or Arbaches, and his country was denominated *Arphachitis*. Lud, as ſome think, ſettled in Lydia, among the ſons of Japhet; but this opinion ſeems to be without foundation. Here, then, there is diſperſion, but ſuch as muſt have originated from the nature of the thing. The five brothers all ſettled contiguous, without being *ſcattered abroad upon the whole earth.* Beſides, there was no confuſion of language among theſe tribes: they continued to uſe one and the ſame tongue, (or *lip* as the Hebrew idiom expreſſes it,) through many ſucceeding generations.

"From theſe circumſtances, it appears that the poſterity of Shem were not involved in the guilt of the builders of the tower, and of conſequence did not undergo their puniſhment. If, then, the language of the Shemites was not confounded upon the erection of the tower, the preſumption is, that they retained the language of Noah, which in all probability, was that of Adam. Some dialectical differences would in proceſs of time creep in, but the radical fabric of the language would remain unaltered.

"3. The poſterity of Shem appear in general to have cultivated the paſtoral life. They imitated the ſtyle of living adopted by the antediluvian poſterity of *Seth*. No ſooner had Noah deſcended from the ark, than he became *Ish ha Adamah*, a man of the earth; that is, a huſbandman, and planted a vineyard. We find that ſome ages after, Laban the Syrian had flocks and herds; and that the chief wealth of the patriarch Abraham and his

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children conſiſted in their flocks and herds. Even his Gentile deſcendants, the Iſhmaelites and Midianites, ſeem to have followed the ſame occupation. But people of this profeſſion are ſeldom given to changes: their wants are few, and of conſequence they are under few or no temptations to deviate from the beaten track. This circumſtance renders it probable, that the language of Adam and Noah was preſerved with little variation among the deſcendants of Arphaxad down to Abraham.

"We have obſerved, that Ham probably left the ſociety of his brethers, and emigrated elſewhere. There is a tradition ſtill current in the Eaſt, and which was adopted by many of the Chriſtian fathers, that Noah, in the 930th year of his life, by divine appointment, did formally divide the whole terraqueous globe among his three ſons, obliging them to take an oath that they would ſtand by the deciſion. Upon this happened a migration at the birth of Peleg, three centuries after the flood. It is affirmed, that Nimrod the arch-rebel diſregarded this partition, and encroached upon the territory of Aſſur, which occaſioned the firſt war after the flood.

"The Greeks had acquired ſome idea of this partition, which they ſuppoſed to have been between Jupiter, Neptune, and Pluto. Plato ſeems to have heard of it: "For (ſays he) the gods of old obtained the dominion of the whole earth, according to their different allotments. This was effected without any contention, for they took poſſeſſion of their ſeveral provinces in a fair and amicable way, by lot." Joſephus, in his account of the diſperſion of mankind, plainly inſinuates a divine deſtination; and Philo Judeus was of the ſame opinion.

"In conſequence of this arrangement, the ſons of Shem took poſſeſſion of the countries above mentioned; the poſterity of Japhet had ſpread themſelves towards the N. and W.; but the Hamites ſeized upon the land of Canaan; removed eaſtward, and at length deſcending from the Cardu-chean or Gordyæan mountains, directed their courſe weſtward, and arrived at the plains of Shinar, which had been poſſeſſed by the Aſhurim ever ſince the era of the firſt migration at the birth of Peleg. The ſacred hiſtorian informs us, that "the whole *earth* was of one language and of one ſpeech;" that in journeying from the eaſt, they lighted upon the plain of Shinar, and dwelt there. In this paſſage we find no particular people ſpecified; but as we find Nimrod, one of the deſcendants of Ham, ſettled in that country, we are ſure that they were the offspring of that patriarch. It would not, we think, be eaſy to aſſign a reaſon, how one branch of the family of Ham came to plant itſelf in the midſt of the ſons of Shem by any other means but by violence.

"It is indeed generally ſuppoſed, that Nimrod, at the head of a body of the children of Ham, made war upon Aſſur, and drove him out of the country of Shinar; and there laid the foundation of that kingdom, the beginning of which was Babel: that this chief, ſupported by all the Cuſhites, and a great number of apoſtates from the family of Shem and Japhet who had joined him, refuſed to ſubmit to the divine ordinance by the mouth of Noah, with reſpect to the partition of the earth; and that he and his adherents were the people who erected the celebrated tower, in conſequence of a reſolution which they had formed to keep together, without repairing to the quarters aſſigned them by the determination of Heaven. This was the crime which brought down the judgment of the Almighty upon them, by which they were *ſcattered abroad upon the face of all the earth*. The main body of the children of Shem and Japhet were not engaged in this impious undertaking; their language, therefore, was not confounded, nor were they themſelves ſcattered abroad. Their habitations were contiguous; that of the Shemites towards the centre of Aſia; the dwellings of Japhet were extended towards N. and NW.; and the languages of both their miles continued for many ages without the variation, except what time, climate, laws, religion, new inventions, arts, ſciences, and commerce, will produce in every tongue in a ſucceſſion of years.

"The general opinion then was, that none the progeny of Ham and their aſſociates were ſent at the building of the tower, and that only ſuffered by the judgment conſequent that attempt. There are even among the Pa ſome alluſions to the diviſion of the world the three ſons of Noah.

"Beroſus, in his hiſtory of the Babyloniaus, forms us, that XISUTHRUS, at the foot of Mo Baris or Luban, where the ark reſted, gave children their laſt inſtructions, and then vani out of ſight. It is now generally believed that Xiſuthrus of Beroſus was Noah. (See DELU § 5.) Eupolemus, another Heathen writer, us, "that the city Babel was firſt founded, afterwards the celebrated tower; both w were built by ſome of thoſe people who eſc the deluge. They were the ſame with thoſe in after times were exhibited under the na *giants*. The tower was at length ruined by hand of the Almighty, and thoſe giants were tered over the whole earth." This quotat plainly intimates, that according to the opin of the author, only the raſcally mob of the Ha ites, and their apoſtate aſſociates, were enga in this daring enterprize.

"Indeed it can never be ſuppoſed that Shem if he was alive at that period, as he certainly w would co-operate in ſuch an abſurd and impio undertaking. That devout patriarch, we think would rather employ his influence and author to divert his deſcendants from an attempt whi he knew was undertaken in contradiction to expreſs ordinance of Heaven; and it is ſurely v little probable that Elam, Aſhur, Arphaxad, Aram, would join the impious confederacy, oppoſition to the remonſtrances of their fath The building of the tower, according to the m probable chronology, was undertaken at a peri ſo late, that *all mankind* could not poſſibly ha concurred in the enterprize.

"Many of the fathers were of opinion, th Noah ſettled in Armenia, the country where the reſted; and that his deſcendants did not lea that region for five generations, during the ſpa of 659 years. By this period the human race mul

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have been so amazingly multiplied, that the plains of Shinar could not have contained them. (See ANTEDILUVIANS, § 11—14.) According to the Samaritan Pentateuch, and the Septuagint version, Peleg was born in the 134th year of his father Eber. Even admitting the vulgar opinion, that the tower was begun to be built, and the dispersion consequent upon that event to have taken place at this era, the human race would have been by much too numerous to have universally concurred in one design.

"From these circumstances, it appears that the whole mass of mankind was not engaged in building the tower; that the language of all the human race was not confounded upon that occasion; and that the dispersion reached only to a combination of Hamites, and of the most profligate part of the two other families, who had joined their wicked confederacy.

"We have pursued this argument to considerable length, because some have inferred, from the difference in languages existing at this day, that mankind cannot have sprung from two individuals; because, from the connection still existing among languages, some have been bold enough to question the fact, though plainly recorded in sacred history; and lastly, because we imagine that many of our readers, who do not pretend to peruse the writings of the learned, may be gratified by seeing the various opinions respecting the confusion of tongues, and the dispersion of mankind, collected into one mass, equally brief, we hope, and intelligible: and this view of these opinions, with the foundations on which they respectively rest, we think may suffice to prove, that the language of Noah was for some ages preserved unmixed among the descendants of both Shem and Japhet.

"To gratify still farther such of our curious readers as may not have access to more ample information, we shall in this place exhibit a brief detail of the circumstances which attended this daring attempt. The people engaged in it have been held up as a profligate race. The Almighty himself denominates them "*the children of men*," which is the very appellation by which the antediluvian sinners were characterized; *the sons of God saw the daughters of men*, &c. Their design in raising this edifice was "*to make them a name, lest they should be scattered abroad upon the face of the whole earth.*" Gen. xi.

"Whatever resolution the rest of mankind might take, they had determined to maintain themselves on that spot. The tower was intended as a centre of union, and perhaps as a fortress of defence. Such a stupendous fabric, they imagined, would immortalize their memory, and transmit the name of their confederacy with eclat to future ages. This design plainly intimates, that there was only a party concerned in the undertaking, since, had all mankind been engaged in it, the purpose would have been foolish and futile. Again, they intended, by making themselves *a name*, to prevent their being scattered abroad upon the face of the earth. This was an act of rebellion in direct contradiction to the divine appointment, which constituted their crime, and brought down the judgment of Heaven upon their guilty heads. The consequence of the confusion of languages was, that the projectors left off to build, and were actually scattered abroad, contrary to their intention. See BABEL.

"Abydenus, in his Assyrian annals, records, that the "tower was carried up to heaven; but that the gods ruined it by storms and whirlwinds, and overthrew it upon the heads of those who were employed in the work, and that the ruins of it were called *Babylon*. Before this there was but one language subsisting among men: but now there arose πολυφωνον, *a manifold speech*; and he adds, that a war soon after broke out between Titan and Cronus." The Sybilline oracles give much the same account of this early and important transaction.

"Justin informs us, that the Phœnicians who built Tyre were driven from Assyria by an earthquake. These Phœnicians were the descendants of Mizraim the youngest son of Ham; and were, we think, confederates in building the tower, and were driven away by the catastrophe that ensued. Many other allusions to the dispersion of this branch of the family occur in Pagan authors. Upon the whole, it is probable, that the country of Shinar lay desolate for some time after this revolution; for the dread of the judgment inflicted upon the original inhabitants would deter men from settling in that inauspicious region. At last, however, a new colony arrived, and Babel, or Babylon, became the capital of a flourishing kingdom.

"Nimrod, the mighty hunter, is generally thought to have been deeply concerned in the transactions of this period. According to most authors, ancient and modern, this patriarch was the leader of the confederates who erected the tower, and the chief instigator to that enterprize. The Seventy have pronounced him a giant, as well as a huntsman. They have translated the Hebrew word *gebur*, which generally signifies *strong*, *mighty*, by the word γιγας, *giant*; an idea which we imagine those translators borrowed from the Greeks. The antediluvian giants are called *Nephelim* and *Rephaim*, but never *Geburim*. The Rabbinical writers, who justly hated the Babylonians, readily adopted this idea; and the fathers of the church, and the Byzantine historians, have universally followed them. He has been called *Nimrod*, *Nebrod*, *Nembroth*, *Nebroth*, and *Nebris*. Not a few have made him the first *Bacchus*, and compounded his name of *Bar*, a son, and *Cush*, that is, the son of *Cush*. Some have imagined that he was the Orion of the Pagans, whose shade is so nobly described by Homer. But the etymology of this last name implies something honourable, and very unsuitable to the idea of the *tyrant Nimrod*. It must be observed, however, that we find nothing in Scripture to warrant the supposition of his having been a tyrant: so far from it, that some have deemed him a benefactor to mankind. See NIMROD.

"The beginning of this prince's kingdom was Babel. Eusebius gives us first a catalogue of six kings of the Chaldæans, and then another of five kings of Arabian extraction, who reigned in Chaldæa after them. This might naturally enough happen, since it appears that the inhabitants of those

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thoſe parts of Arabia which are adjacent to Chaldea were actually Cuſhites, of the ſame family with the Babylonians.

"The Cuſhites, however, were at laſt ſubdued, perhaps partly expelled Chaldea by the *Chaſidim*, who probably claimed that territory as the patrimony of their progenitors. That the Chaſidim were neither *Cuſhites*, nor *Hamites*, is obvious from the name. The Hebrews, and indeed all the Orientals, denominated both the people who inhabited the eaſtern coaſt of Arabia *Cuſhim*, and alſo the Ethiopians who ſprung from the laſt mentioned people. Had the later inhabitants of Chaldea been the deſcendants of Cuſh, the Jewiſh writers would have called them *Cuſhim*. We find they called the Phœnicians *Chanaanim*, the Syrians *Aramim*, the Egyptians *Mizraim*, the Greeks *Jonim*, &c. The Chaſidim, therefore, or modern inhabitants of Chaldea, were poſitively deſcended of one Cheſed or Chaſed; but who this family-chief was, it is not eaſy to determine. The only perſon of that name whom we meet with in early times is the 4th ſon of Nahor the brother of Abraham; (Gen. xxii. 22.) and ſome have been of opinion that the Chaldeans were the progeny of this Cheſed. This appears highly probable, becauſe both Abram and Nahor were natives of *Ur* of the Chaſidim. The former, we know, in conſequence of the divine command, removed to *Haran*, afterwards *Charræ*; but the latter remained in *Ur*, where his family multiplied, and, in proceſs of time, became maſters of the country which they called the land of the Chaſidim, from *Cheſed* or *Chaſed*, the name of their anceſtor. This account is the more probable, as we find the other branches of Nahor's family ſettled in the ſame neighbourhood. See ELIHU and JOB.

"How the Greeks came to denominate theſe people χαλδαιοι, *Chaldæi*, is a queſtion rather difficult to be reſolved; but we know that they always affected to diſtinguiſh people and places by names derived from their own language. They knew a rugged, erratic nation, on the banks of the river Thermodon, in the territory of Pontus, bordering on Armenia the Leſs. Theſe, in ancient times, were called *Alybes*, or *Chalybes*, becauſe they were much employed in forging and poliſhing iron. Their neighbours, at length gave them the name of *Chald* or *Caled*, which imports, in the Armenian dialect, *fierce, hardy, robuſt*. This title the Greeks adopted, and out of it formed the word χαλδαιοι, *Chaldeans*.

"The Moſaic hiſtory informs us, that Aſhur went out of *that land*, (Shinar) and built Nineveh and ſeveral other conſiderable cities. One of the ſucceſſors of Aſhur was the celebrated Ninus, who firſt broke the peace of the world (*Juſtin*, i. c. 1.), made war upon his neighbours, and obliged them by force of arms to become his ſubjects, and pay tribute. Some authors make him the immediate ſucceſſor of Aſhur, and the builder of Nineveh. This we think is not probable; Euſebius, as we have obſerved above, gives a liſt of ſix Arabian princes who reigned in Babylon. We therefore imagine, that Ninus was the fifth or ſixth in ſucceſſion after Aſhur.

"Ninus, according to Diodorus Siculus, made an alliance with Arizæus king of the Arabians, and conquered the Babylonians. This event put an end to the empire of the Hamites or Cuſhim in Shinar or Babylonia. The author obſerves, that the Babylon which figured afterwards did not then exiſt. This fact is confirmed by the prophet Iſaiah (xxiii, 13.); "Behold the land of the Chaſidim; this people was not till Aſhur founded it for them that dwell in the wilderneſs. They ſet up the towers thereof, &c." After Babylonia was ſubdued by the Aſſyrians under Ninus, the capital was either deſtroyed by that conqueror, or deſerted by the inhabitants. At length it was rebuilt by ſome one or other of the Aſſyrian monarchs, who collected the roving Chaſidim, and obliged them to ſettle in the new city. They were ſubject to the Aſſyrian empire till the reign of Sardanapalus, when both the Medes and Babylonians rebelled againſt that effeminate prince.

"The Chaſidim were celebrated by all antiquity for their proficiency in aſtronomy, aſtrology, magic, and curious ſciences. Ur, or Orchoe, was a kind of univerſity for thoſe branches of learning. Such was their reputation in thoſe ſtudies, that over a great part of Aſia and Europe, a Chaldean and an aſtrologer were ſynonymous terms. The ſciences, according to the tradition of the Orientals, had been invented by Seth, whom they call *Edris*; and had been cultivated by his deſcendants downward to Noah, by whom they were tranſmitted to Shem, who conveyed them to Arphaxad and his poſterity.

"To us it appears probable, that the religious ſentiments tranſmitted from Noah through the line of Shem, were kept alive in the family of Arphaxad, and ſo handed down to the family of Serug, Nahor, Terah, Abram, Nahor II. Haran, &c. The Jewiſh rabbis, and all the Perſian and Mahomedan writers, made Abram contemporary with Nimrod; who, ſay they, perſecuted him moſt cruelly for adhering to the true religion. That theſe two patriarchs were contemporary, is very improbable, ſince Nimrod was the third generation from Noah, and Abram the tenth. Abram has been inveſted by the rabbinical writers with every department of learning. According to them, he tranſported from Chaldea into Chanaan and Egypt, aſtronomy, aſtrology, mathematics, geography, magic, alphabetical writing, &c. &c.

"After the Babyloniſh captivity, when the Jews were diſperſed over all the eaſt, and began to make *proſelytes of the gate* among the Pagans, wonderful things were reported of Abram with reſpect to his acquirements in human erudition, as well as his ſupereminence in virtue and piety. Theſe legendary tales were believed by the proſelytes, and by them retailed to their connections and acquaintances. But certainly the holy men either was not deeply verſed in the human ſciences, or did not deem them of importance enough to be communicated to his poſterity; ſince the Jews are, on all hands, acknowledged to have made little progreſs in theſe improvements. Thoſe think of raiſing the fame of Abraham, by claiming him with the philoſophers, betrays an extreme defect in judgment. He is entitled to praiſe of a higher kind; for he excelled in piety, was the father of the faithful, the root of the Meſſiah,

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and the friend of God. Before theſe, all other titles vaniſh away. We ſhall only obſerve, that the Perſians, Chaldeans, and Arabians, pretended that their religion was that of Abraham; that honourable mention is made of him in the Koran; and that the name Abraham or Ibrahim was celebrated over all the eaſt. See Abraham.

"In the progreſs of this diſquiſition, we have ſeen that the language of Noah was, in all probability the ſame or nearly the ſame with that of Adam. Additions and improvements might be introduced, but ſtill the radical ſtamina of the language remained unchanged. It has likewiſe, we hope, appeared, that the confuſion of language at the building of the tower of Babel was only partial, and affected none but the rebellious crew of the race of Ham and the apoſtate part of the families of Shem and Japhet. We have concluded that the main body of the race of Shem were neither diſperſed nor their language confounded; and that conſequently the deſcendants of that patriarch continued to ſpeak their paternal dialect, the uncorrupted language of Noah. To theſe arguments we may add another, that in all probability the worſhip of the true God was preſerved in the line of Arphaxad, after the generality of the other ſects had lapſed into idolatry. Out of this family Abraham was taken, in whoſe line the true religion was to be preſerved. Whether Abraham was an idolater when he dwelt in the land of Chaldea, the ſcripture does not inform us, though it ſeems to be evident that his father was. One thing, however, is certain, namely, that Jehovah appeared to him, and pronounced a bleſſing upon him, before he left Ur of the Chaldees. (See Gen. xii, 1. and Acts vii, 4.) The progeniture of his family had been diſtinguiſhed by adhering to the true religion. About this time, however, they began to degenerate, and to adopt the Sabiiſm of their apoſtate neighbours. It was then that Abraham was commanded by Heaven to leave his kindred and his father's houſe, and to travel into a land which was to be ſhown him." The Almighty intended that the true religion ſhould be preſerved in his line, and therefore removed him from a country and kindred, by the influence of whoſe bad example his religious principles might be endangered. His family had only been apoſtatized; till that period they had preſerved both the language and religion of their venerable anceſtors.

"But however much Abraham might differ from the other branches of his family in his religious ſentiments, his language was certainly in union with theirs. The conſequence of this unqueſtionable poſition is, that the language which he carried with him into Canaan was exactly the ſame with that of his family which he relinquiſhed when he began his peregrinations. But if this be true, it will follow, that the language afterwards denominated Hebrew, and that of the Chaldim or Chaldeans, were originally one and the ſame. This poſition, we think, will not be controverted. There is then an end of the diſpute concerning the original language of mankind. We have advanced ſome preſumptive proofs, that the language of Adam was tranſmitted to Noah, and that the dialect of the latter was preſerved in the line of Arphaxad downwards to the family of Abraham: and it now appears that the Hebrew and Chaldean were originally ſpoken by the ſame family, and of courſe were the ſame between themſelves, and were actually the firſt language upon earth, according to the Moſaic hiſtory. Numberleſs additions, alterations, improvements, we acknowledge, were introduced in the courſe of 2000 years; but ſtill the original ſtamina of the language were unchanged. The Orientals are not a people *given to change*; and this character, in the earlieſt ages, was ſtill more prevalent than at preſent.

"In confirmation of theſe preſumptive arguments, we may add the popular one which is commonly urged upon this occaſion, viz. that the names of antediluvian perſons and places, mentioned by the ſacred hiſtorian, are generally of Hebrew original, and ſignificant in that language. Some of them, we acknowledge, are not ſo; but in this caſe it ought to be remembered, that a very ſmall part of that language now exiſts, and that probably the radicals from which theſe words are deſcended are among the number of thoſe which have long been loſt."

Sect. II. *Of the* Hebrew Language.

"Having thus proved (ſays Dr Doig,) the priority of the Hebrew to every other language that has been ſpoken by men, we ſhall now proceed to conſider its nature and genius; from which it will appear ſtill more evidently to be an original language, neither improved nor debaſed by foreign idioms. The words of which it is compoſed are ſhort, and admit of very little flexion. The names of places are deſcriptive of their nature, ſituation, accidental circumſtances, &c. We find in it no improvement from the age of Moſes to the era of the Babyloniſh captivity. The age of David and Solomon was the golden period of the Hebrew tongue; and yet, in our opinion, it would puzzle a critic of the niceſt acumen to diſcover much improvement even during that happy era. In fact, the Jews were by no means an inventive people. We hear nothing of their progreſs in literary purſuits; nor do they ſeem to have been induſtrious in borrowing from their neighbours. The laws and ſtatutes communicated by Moſes were the principal objects of their ſtudies. Theſe they were commanded to contemplate day and night; and in them they were to place their chief delight. The conſequence of this command was, that little or no regard could be paid to taſte, or any ſubject of philoſophical inveſtigation. Every unimproved language abounds in figurative expreſſions borrowed from ſenſible objects. This is in a peculiar manner the characteriſtic of the language in queſtion; of which it would be ſuperfluous to produce inſtances, as the fact muſt be obvious even to the attentive reader of the Engliſh Bible.

"In the courſe of this argument, we think it ought to be obſerved, and we deem it of the greateſt importance, that if we compare the other languages which have claimed the prize of originality from the Hebrew with that dialect, we ſhall quickly

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quickly be convinced that the latter has a juſt title to the preference. The writers, who have treated this ſubject, generally bring into competition the Hebrew, Chaldean, Syrian, and Arabian. Some one or other of theſe has commonly been thought the original language of mankind. The arguments for the Syrian and Arabian are altogether futile. The numerous improvements ſuperinduced upon theſe languages, evidently prove that they could not have been the original language. In all cognate dialects, etymologiſts hold it as a maxim, that the leaſt improved is likely to be the moſt ancient.

"We have obſerved above, that the language of Abraham and that of the Chaſedim or Chaldeans were originally the ſame; and we are perſuaded, that if an able critic ſhould take the pains to examine ſtrictly theſe two languages, and to take from each what may reaſonably be ſuppoſed to have been improvements or additions ſince the age of Abraham, he will find intrinſic evidence of the truth of this poſition. There appear ſtill in the Chaldean tongue great numbers of words the ſame with the Hebrew, perhaps as many as mankind had occaſion for in the moſt early ages; and much greater numbers would probably be found, if both languages had come down to us entire. The conſtruction of the two languages is indeed ſomewhat different; but this difference ariſes chiefly from the ſuperior improvement of the Chaldean. While the Hebrew language was in a manner ſtationary, the Chaldean underwent proſperous improvements; was mellowed by antitheſes, rendered ſonorous by the diſpoſition of vocal ſounds, acquired a copiouſneſs by compounds, and a majeſty by affixes and prefixes, &c. In proceſs of time, however, the difference became ſo great, that the Iſraelites did not underſtand the Chaldean language at the era of the Babyloniſh captivity. This much the prophet intimates, when he promiſes the pious Jews protection "from a fierce people; a people of a deeper ſpeech than they could perceive; of a ſtammering tongue that they could not underſtand." Iſaiah xxxiii, 19.

"The priority of the Chaldean tongue is indeed contended for by very learned writers. Cambden calls it the mother of all languages; and moſt of the fathers were of the ſame opinion. Amira has made a collection of arguments, not inconſiderable, in favour of it; and Myriceus, after him, did the ſame. Erpenius, in his oration for the Hebrew tongue, thought the argument for it and the Chaldean ſo equal, that he did not chooſe to take upon him to determine the queſtion.

"Many circumſtances, however, concur to make us aſſign the priority to the Hebrew, or rather to make us believe that it has ſuffered feweſt of thoſe changes to which every living tongue is more or leſs liable. If we ſtrip this language of every thing obviouſly adventitious, we ſhall find it extremely ſimple and primitive. 1. Every thing maſoretical, ſuppoſing the vowels and points eſſential, was certainly unknown in its original character. 2. All the prefixed and affixed letters were added time after time, to give more compaſs and preciſion to the language. 3. The various voices, moods, tenſes, numbers, and perſons of verbs, were poſterior improvements; for in that tongue nothing at firſt appeared but the indeclinable radix. 4. In the ſame manner, the few adjectives that occur in the language, and the numbers and regimen of nouns, were not from the beginning. 5. Moſt of the Hebrew nouns are derived from verbs; indeed many of them are written with the very ſame letters. This rule, however, is not general; for often verbs are derived from nouns, and even ſome from prepoſitions. 6. All the verbs of that language, at leaſt all that originally belonged to it, uniformly conſiſt of three letters, and ſeem to have been at firſt pronounced as monoſyllables. If we anatomize the Hebrew language in this manner, we ſhall reduce it to a very great ſimplicity; we ſhall confine it to a few names of things, perſons, and actions; we ſhall make all its words monoſyllables, and give it the true characters of an original language. If at the ſame time we reflect on the ſmall number of radical words in that dialect, we ſhall be more and more convinced of its originality.

"It will not be expected, that we ſhould enter into a minute diſcuſſion of the grammatical peculiarities of this ancient language. For theſe we muſt refer our readers to the numerous and elaborate grammars of that tongue, which are everywhere eaſily to be found. We ſhall only make a few ſtrictures, which naturally preſent themſelves before we diſmiſs the ſubject.

"The generality of writers who have maintained the ſuperior antiquity of the Hebrew language have at the ſame time contended that all other languages of Aſia, and moſt of thoſe of Europe, have been derived from that tongue as their ſource and matrix. We, for our part, are of opinion that perhaps all the languages in the eaſtern part of the globe are coeval with it, and were originally one and the ſame; and that the differences which afterwards diſtinguiſhed them, ſprung from climate, caprice, inventions, religions, commerce, conqueſts, and other accidental cauſes, which will occur to our intelligent readers. We have endeavoured to prove, that all mankind were not concerned in the building of the fatal tower, nor affected by the puniſhment conſequent upon that attempt: and we now add, that even that puniſhment was only temporary; ſince we find, that thoſe very Hamites or Cuſhim, who are allowed to have been affected by it, did certainly afterwards recover the former organization of their ſpeech, and differed not more from the original Mandane than the deſcendants of Japhet and Shem.

"The Jewiſh rabbis have pretended to aſcertain the number of languages generated by the vengeance of Heaven at the building of Babel. They tell us that mankind was divided into 70 nations and 70 languages, and that each of theſe nations had its tutelar or guardian angel. This fabulous legend is founded on the number of the progeny of Jacob at the time when that patriarch and his family went down into Egypt.

"Abraham, a Hebrew, lived among the Chaldeans, travelled among the Canaanites, ſojourned among the Philiſtines, lived ſome time in Egypt, and in all appearance converſed with all thoſe nations without any apparent difficulty. This circumſtance plainly proves, that all theſe nations at that

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that time ſpoke nearly the ſame language. The nations had not yet begun to improve their reſpective dialects, nor to deviate in any meaſure from the monoſyllabic tongue of the Hebrews. With reſpect to the language of Canaan, afterwards the Phœnician, its ſimilarity to the Hebrew is obvious from the names of gods, men, cities, mountains, rivers, &c. which are the very ſame in both tongues, as might be ſhown in numberleſs caſes.

We ſhall now give a brief account of the Hebrew *letters*, and of the *Maſoretic points*, about which there have been ſo much controverſy among learned men. Much has been written, and numberleſs hypotheſes propoſed, to inveſtigate the origin of *alphabetical writing*. To give even an abridged account of all theſe, would fill many volumes. (See ALPHABETICAL CHARACTERS.) In the original ſcheme of HIEROGLYPHICS, the proceſs was doubtleſs ſomewhat in this manner: A *lion* might be etched, to import fierceneſs or valour; an *ox* to denote ſtrength; a *flag*, to ſignify ſwiftneſs; a *fox*, to intimate timorouſneſs, &c. The next ſtep in this proceſs would naturally extend to the framing and appropriating of a few arbitrary characters, for repreſenting abſtract ideas, and their relations, which could not be well aſcertained by the methods above mentioned. Theſe primary ſigns might readily acquire a currency by compact, as money and medals do over the greateſt part of the world.—Upon this plan we ſuppoſe the ancient Chineſe formed their language.

But neither the picture nor the hieroglyphic, nor the method of denoting *ideas* by arbitrary characters appropriated by compact, could ever have arrived at ſuch perfection as to anſwer all the purpoſes of ideal communication. The grand deſideratum then would be to fabricate characters to repreſent ſimple ſounds, and to reduce theſe characters to ſo ſmall a number as to be eaſily learned and preſerved in the memory. In this attempt the Chineſe have notoriouſly failed; their letters, or rather their characters, are ſo numerous, that hardly any, of their moſt learned and induſtrious men, have been able to learn and retain the whole catalogue. Indeed thoſe people are not able to conceive how any combinations of 20 or 30 characters ſhould be competent to anſwer all the purpoſes of written language.

Many different nations have claimed the honour of this invention. The Greeks aſcribed it to the Phœnicians. They borrowed their letters from the Phœnicians, and of courſe looked up to them as the inventors. Others attributed the invention to the Egyptians." But this is contrary to fact, for the Egyptians uſed hieroglyphics for many ages after the Phœnicians, Hebrews, and Greeks had completed their alphabets. And if they had ever invented or uſed alphabetical characters, they would immediately have given up the uſe of hieroglyphics.

From various circumſtances Dr Doig makes it evident "that the Syrian alphabet, or the Syrian letters, were the ſame with the Hebrew. That the Aſſyrian or Chaldaic and Hebrew languages were the ſame, (he adds,) has been fully proved already: that their letters were the ſame in the original ſtructure, can ſcarce be controverted. Theſe letters, we think, were antediluvian. As this opinion may admit ſome diſpute, we ſhall take the liberty to ſubjoin our reaſons.

"1. It appears that the era of this invention is buried in impenetrable obſcurity. Had an invention of ſuch capital importance to mankind been made in the poſtdiluvian ages, the author would have been commemorated in the hiſtorical annals of the country where he lived.

"2. The art of writing in alphabetical characters, according to the ſacred records, was practiſed at ſo early a period, that there was not a long enough interval between that and the deluge to give birth to that noble invention.

"Moſes has recorded the hiſtory of the creation, of a few of the capital tranſactions of the antediluvian world, the birth, the age, the death, of the lineal deſcendants of Seth. He has preſerved the dimenſions of the ark, the duration of the univerſal deluge, its effects upon man and all terreſtrial animals, the population of the world by the poſterity of Noah, the age, &c. of the patriarchs of the line of Shem, from which his own anceſtors had ſprung. To this he has ſubjoined the petty occurrences which diverſified the lives of Abraham, Iſaac, and Jacob, and their deſcendants. Whence did the hiſtorian derive his information? We believe few of our readers will be ſo enthuſiaſtic as to imagine that the author received it from divine inſpiration. Tradition is a fallible guide; and in many caſes the accounts are ſo minutely preciſe, as to defy the power of that ſpecies of conveyance. The inſpired author muſt certainly have extracted his abridgment from written memoirs, or hiſtories of the tranſactions of his anceſtors regularly tranſmitted from the moſt early periods. Theſe annals he probably abridged, as Ezra did afterwards the hiſtory of the Kings of Iſrael. If this was the caſe, the art of writing in alphabetical letters muſt have been known and practiſed many ages before Moſes. It has indeed been pretended, that the Jewiſh decalogue inſcribed upon two tables of ſtone, was the very firſt ſpecimen of alphabetical writing. The arguments adduced in proof of this fact are lame and inconcluſive. Had that been the caſe, ſome notice muſt have been taken of ſo palpable a circumſtance. Moſes wrote out his hiſtory, his laws, and his memoirs; and it appears plainly from the text, that all the learned among his countrymen could read them. Writing was then no novel invention in the age of the Jewiſh legiſlator, but current and generally known at that era.

"The patriarch Job lived at an earlier period." (See JOB.) "In that book we find many alluſions to the art of writing, and ſome paſſages which plainly prove its exiſtence. This ſhows that alphabetical characters were not confined to the choſen ſeed, ſince Job was in all probability a deſcendant of Huz, the eldeſt ſon of Nahor the brother of Abraham. From this circumſtance, we think we may fairly conclude, that this art was known and practiſed in the family of Terah, the father of Abraham.

"3. There was certainly a tradition among the

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Jews in the age of Josephus, that writing was an antediluvian invention. That historian pretends, that the descendants of Seth erected two pillars, the one of stone and the other of brick, and inscribed upon them their astronomical observations and other improvements.—This legend shows that there did exist such an opinion of the antiquity of the art of writing.

"4. There must have been a tradition to the same purpose among the Chaldeans, since the writers who have copied from Berosus, the celebrated Chaldean historian, speaks of alphabetical writing as an art well known among the antediluvians. According to them, OANNES the Chaldean legislator, gave his disciples "an insight into *letters* and science. This person also *wrote* concerning the generation of mankind, of their different pursuits, of civil polity, &c. Immediately before the deluge (say they) the god Cronus appeared to Sisuthrus or Xisuthrus, and commanded him to commit to *writing*, the beginning, improvement, and conclusion of all things down to the present time, and to bury these accounts securely in the temple of the Sun at Seppara." All these traditions may be fabulous in the main; but still they evince that such an opinion was current, and that though the use of letters was not indeed eternal, it was, however, prior to all the records of history; and of course, we think, an antediluvian discovery.

"This original alphabet, whatever it was, and however constructed, was, we think, preserved in the family of Noah, and from it conveyed down to succeeding generations. If we can then discover the original Hebrew alphabet, we shall be able to investigate the primary species of letters expressive of those articulate sounds, by which man is in a great measure distinguished from the brute creation. Whatever might be the nature of that alphabet, we may be convinced that the ancient Jews deemed it sacred, and therefore preserved it pure and unmixed till the Babylonish captivity. If, then, any monuments are still extant inscribed with letters prior to that event, we may rest assured that these are the remains of the original alphabet.

"There have, from time to time, been dug up at Jerusalem, and other parts of Judea, coins and medals, and medallions, inscribed with letters of a form very different from those square letters in which the Hebrew Scriptures are now written.

"When the Samaritan Pentateuch was discovered, it evidently appeared, that the inscriptions of those medals and coins were drawn in genuine Samaritan characters. The learned Abbé Barthelemi, in his dissertation "on the two medals of Antigonus king of Judea, one of the later Asmonean princes, proves that all the inscriptions on the coins and medals of Jonathan and Simon Maccabeus, and also on his, were invariably in the Samaritan character, down to the 40th year before the Christian era."

"It were easy to prove, from the Mishna and Jerusalem Talmud, that the Scriptures publicly read in the synagogues to the end of the second century were written in the Samaritan character, we mean in the same character with the Pentateuch in question. As the ancient Hebrew, however, ceased to be the vulgar language of the Jews, after their return from the Babylonish captivity the copies of the Bible, especially those in private hands, were accompanied with a Chaldaic paraphrase; and at length the original Hebrew character fell into disuse, and the Chaldaic was universally adopted.

"It now appears that the letters inscribed on the ancient coins and medals of the Jews were written in the Samaritan form, and that the Scriptures were written in the very same character we shall therefore leave it to our readers to judge whether (considering the implacable hatred which subsisted between these two nations) it be likely that the one copied from the other; or at least that the Jews preferred to the beautiful letters used by their ancestors, the rude and inelegant characters of their most detested rivals. If, then, inscriptions on the coins and medals were actually in the characters of the Samaritan Pentateuch (and it is absurd to suppose that the Jews borrowed them from the Samaritans), the consequence plainly is, that the letters of the inscriptions were those of the original Hebrew alphabet, coeval with that language, which we dare to maintain was the first upon earth.

"It may, perhaps, be thought rather superfluous to mention, that the Samaritan colonists whom the kings of Assyria planted in the city Samaria, were natives of countries where Chaldaic letters were current, and who were probably ignorant of the Hebrew language and character. When those colonists embraced the Jewish religion they procured a copy of the Hebrew Pentateuch written in its native character, which, from their superstition, they preserved inviolate as they received it; and from it were copied successively the Chaldaic which were current in Syria and Palestine. Abp Usher procured his. From the reasons we have exhibited, we hope it will appear, that if the Hebrew alphabet, as it appears in the Samaritan Pentateuch, was not the primitive one, it was at least that in which the Holy Scriptures were first committed to writing.

"Scaliger has inferred, from a passage in Eusebius, and another in St Jerom, that Ezra, when he reformed the Jewish church, transcribed the Scriptures from the ancient characters of the Hebrews into the square letters of the Chaldee. This, he thinks, was done for the use of the Jews, who being born during the captivity, knew no other alphabet than that of the people among whom they were educated.—This account of the matter, though probable in itself, and supported by passages from both Talmuds, has been attacked by Buxtorf with great learning and no less ceremony. Scaliger, however, has been followed by a crowd of learned men whose opinion is now by the majority generally espoused by the sacred critics."

Having said so much concerning the Hebrew alphabet, we must now, according to promise (See HEBREW, § III, 1.) hazard a few strictures on the vowels and Masoretic points; the *first* essential, and the *last* an appendage, of that ancient language. The number of the one, and the nature, antiquity, and necessity of the other, in order to read the language with propriety and with discrimination, have been the subject of much and often illiberal controversy among philological writers. To enable us

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into a minute detail of the arguments on either ſide, would require a complete volume: we ſhall, therefore, briefly exhibit the ſtate of the controverſy, and then adduce a few obſervations, which, in our opinion, ought to determine the queſtion.

"The controverſy then is, Whether the Hebrews uſed any vowels; or whether the points, which are now called by that name, were ſubſtituted inſtead of them? or if they were, whether they be as old as Moſes, or were invented by Ezra, or by the Maſorites? This controverſy has puzzled the wits of the moſt learned critics of the three laſt centuries, and is ſtill undetermined. The Jews maintain, that theſe vowel points were delivered to Moſes along with the tables of the law; and conſequently hold them as ſacred as they do the letters themſelves. Many Chriſtian authors who have handled this ſubject, though they do not affirm their divine original, nor their extravagant antiquity, pretend, however, that they are really proper vowels in the language, and required to aſcertain its true pronunciation. Though they differ from the Jews with reſpect to the origin of theſe points, they yet allow them a pretty high antiquity, aſcribing them to Ezra and the other ſages of the great ſynagogue.

"At length, however, about the middle of the laſt century, Elias Levita, a learned German Jew who then flouriſhed at Rome, diſcovered the deception, and made it appear that theſe appendages had never been in uſe till after the writing of the Talmud, about 500 years after Chriſt. This innovation raiſed Elias a multitude of adverſaries, both of his own countrymen and Chriſtians. Among the latter appeared the two Buxtorfs, the father and the ſon, who produced ſome cabbaliſtical books of great antiquity, at leaſt in the opinion of the Jews, in which there was expreſs mention made of points. The Buxtorfs were anſwered by Morinus and other critics, till Father Morinus carefully examined all that had been urged on both ſides, and produced his learned diſſertation on that ſubject; againſt which there has been nothing replied of any conſequence, whilſt his work has been univerſally admired, and his opinion confirmed by thoſe who have beaten the ſame field after him.

"According to this learned father, it plainly appears that neither Origen, nor St Jerome, nor even the compilers of the Talmud, knew any thing of what has been called the *vowel points*; and that the Talmud books were not finiſhed till the 7th century. The Jewiſh rabbis who wrote during the 8th and 9th centuries, were not in the leaſt acquainted with theſe points. He adds, that the firſt veſtiges we find trace of them were in the writings of *Aaron Aber* chief of the weſtern, and of *rabbi Nephtali* chief of the eaſtern, ſchool, that is, about the middle of the 10th century; ſo that they cannot juſtly be ſaid to be older than the beginning of that period. The Buxtorfs and other learned men have aſcribed the invention of the vowel points in queſtion to the rabbis of the ſchool of Tiberias; which flouriſhed about the middle of the 6th century. This opinion is by no means tenable, becauſe it appears plain from hiſtory, that before that period all the Jewiſh ſeminaries in that province were deſtroyed, and their heads forced into exile. Some of theſe retired into Babylonia, and ſettled at Sora, Naherda, and Pombeditha, where they eſtabliſhed famous univerſities. After this era there remained no more any rabbinical ſchools in Judæa, headed by profeſſors capable of undertaking this difficult operation, nor indeed of ſufficient authority to recommend it to general practice, had they been ever ſo thoroughly qualified for executing it.

"Capellus and father Morin, who contend for the late introduction of the vowel points, acknowledge that there can certainly be no language without vocal ſounds, which are indeed the ſoul and eſſence of ſpeech; but they affirm that the Hebrew alphabet actually contains vowel characters, as well as the Greek and Latin and the alphabets of modern Europe. Theſe are *aleph, he, vau, jod.* Theſe they call the *matres lectionis*, or, if you pleaſe, the parents of reading. To theſe ſome, we think very properly, add *ain, oin*, or *ajin*. Theſe, they conclude, perform exactly the ſame office in Hebrew that their deſcendants do in Greek. It is indeed agreed upon all hands, that the Greek alphabet is derived from the Phœnician, which is known to be the ſame with the Samaritan or Hebrew. Hitherto the analogy is not only plauſible, but the reſemblance preciſe. The Hebrews and Samaritans employed theſe vowels exactly in the ſame manner with the Greeks; and ſo all was eaſy and natural.

"But the aſſerters of the Maſoretic ſyſtem maintain, that the letters mentioned above are not vowels but conſonants or aſpirations, or any thing you pleaſe but vocal letters. This they endeavour to prove from their uſe among the Arabians, Perſians, and other oriental nations: But to us it appears abundantly ſtrange to ſuppoſe that the Greeks pronounced *beta, gamma, delta*, &c. exactly as the Hebrews and the Phœnicians did, and yet at the ſame time did not adopt their mode of pronunciation with reſpect to the five letters under conſideration. To this argument we think every objection muſt undoubtedly yield. The Greeks borrowed their letters from the Phœnicians; theſe letters were the Hebrew or Samaritan. The Greeks wrote and pronounced all the other letters of their alphabet, except the five in queſtion, in the ſame manner with their originals of the eaſt: if they did ſo, it obviouſly follows that the Greek and oriental office of theſe letters was the ſame."

"We cannot (adds Dr Doig,) take leave of the ſacred language without giving a brief detail of thoſe excellencies, which give it a claim to the ſuperiority over thoſe tongues which have ſometimes contended with it for the prize of antiquity.

"If this language may claim any advantage over its antagoniſts, it is undoubtedly in conſequence of its ſimplicity, its purity, its energy, its fecundity of its expreſſions and ſignifications. In all theſe, notwithſtanding its paucity of words, it excels the vaſt variety of other languages which are its cognate dialects. To theſe we may add the ſignificancy of the names, both of men and brutes; the nature and properties of the latter of which are more clearly and fully exhibited by their names in this than in any other tongue hitherto known. Beſides, its well authenticated antiquity, and the

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venerable tone of its writings, impress any thing left upon record in any other dialect now extant.

"As far as we are enabled to understand it in its present mutilated condition, and unable to judge of its character from those few books that have come down to our time, we plainly perceive that its genius is simple, primitive, and natural, and exactly conformable to the character of those uncivilized patriarchs who used it themselves, and transmitted it to their descendants in its native purity and simplicity. Its words are comparatively few, yet concise and expressive; derived from a very small number of radicals, without the artificial composition of modern languages. No tongue, ancient or modern, can rival it in the rich fecundity of its verbs, resulting from the variety and significancy of its conjugations; which are so admirably arranged and diversified, that by changing a letter or two of the primitive, they express the various modes of acting, suffering, motion, rest, &c. in such a precise and significant manner, that frequently in one word they convey an idea which, in any other language, would require a tedious paraphrase. These positions might easily be illustrated by numerous examples; but to the Hebrew scholar these would be superfluous, and to the illiterate class neither interesting nor entertaining.

"To these we may add the monosyllabic tone of the language, which, by a few prefixes and affixes without affecting the radix, varies the signification almost at pleasure, while the method of affixing the person to the verb exhibits the gender of the object introduced. In the nouns of this language there is no flexion, except what is necessary to point out the difference of gender and number. Its cases are distinguished by articles, which are only single letters at the beginning of the word: the pronouns are only single letters affixed; and the prepositions are of the same character prefixed to words. Its words follow one another in an easy and natural arrangement, without intricacy or transposition, without suspending the attention or involving the sense by intricate and artificial periods. All these striking and peculiar excellencies combined, plainly demonstrate the beauty, the stability, and antiquity of the language under consideration.

"We would not, however, insinuate that this tongue continued altogether without changes. We admit that many radical words of it were lost in a course of ages, and that foreign ones were substituted in their place. The long sojourning of the Israelites in Egypt must have introduced a multitude of Egyptian vocables and phrases into the vulgar dialect at least, which must have gradually incorporated with the written language, and in process of time have become parts of its essence. Besides, the Scripture informs us, that there came up out of Egypt *a mixed multitude*; who must have infected the Hebrew tongue with the dialect of Egypt. As none of the genuine Hebrew radicals exceed three letters, whatever words exceed that number in their radical state may be justly deemed of foreign extraction."

Sect. III. *Of the* Arabic Language.

"We now proceed (says Dr Doig,) to give some account of the Arabian language, which is evidently one of the other dialects of the Hebrew. Both were originally the same; the one of them improved and enlarged; the latter, in appearance, retaining its original simplicity and rude aspect, spoken by a people of a genius by no means inventive. In this inquiry, too, as in the former, we shall spare ourselves the trouble of descending to the grammatical minutiæ of the tongue. To those who are inclined to acquire the first elements of that various, copious, and highly improved tongue, we beg to recommend *Erpenii Rudimenta Linguæ Arab. Golii Gram. Arab.* the dissertations of Aaseri, translated by the elder Schultens; Mr Richardson's Persic and Arabic Gram." &c.

That "the Hebrew and Arabian are sister dialects, has been seldom controverted: but we think there is authentic historical evidence that they were positively one and the same, and at a period when the one as well as the other appeared in its infant unadorned simplicity." Our learned author endeavours to prove this, from various circumstances; particularly from Gen. x. 25—30, where it is recorded, that the 13 sons of *Joktan* or *Kahtan* and their "descendants possessed all the maritime coast of Arabia from Mesha (*Mocha*) to mount Sephar towards the east of that peninsula." He illustrates this farther from *Havilah*, the name of Joktan's 12th son, being the name of an eastern country abounding with gold, mentioned by Moses, (Gen. ii. 11.) as surrounded by one of the rivers of Paradise; and he might have urged similar argument from *Ophir*, the name of Yoktan's 11th son, being the name of another country in Arabia, also abounding with gold. This Yoktan, he says, the Arabians also call *Kohtan*; and one who e infers, that as these patriarchs spoke nothing but Hebrew, "the original language of all the tribes of the Arabians who inhabit a vast tract of country along the southern shore, was that of their father Kohtan, that is, the Hebrew. Hence the most learned Arabians of modern times unanimously acknowledge this patriarch as the author of their language as well as of their nation.

"The other districts of Arabia were peopled by the offspring of Abraham. The Ishmaelites, the posterity of that patriarch by Hagar, penetrated into the very centre of the peninsula; incorporated and in process of time became one people with the Kohtanites. Another region was possessed by the children of the same holy man by Chetura his second wife. The Moabites, Ammonites, Edomites, Amalekites, &c. who settled in the various regions of Arabia Petræa, were all branches of Abraham's family, and used the same language with their great progenitor. The Scripture indeed speaks of people who inhabited the country long anterior to the branches of Abraham's family; but these were extirpated by the former. The conclusion then is, that all the inhabitants of the three divisions of Arabia did, in the earliest periods, universally use the Hebrew tongue.

"There was, we are sensible, a region of Arabia inhabited by the Cushim, or descendants of Cush. This district was situated on the confines of Babylonia. Our translators have confounded this country with the modern Ethiopia; and have consequently ascribed the exploits of the Arabian Cushim to the Ethiopians. The Arabian kings of Babylonia

Babylonia were those of Cushim. These were conquered and expelled Babylonia by the Chasidim. These spoke the Chaldean dialect.

"The Arabic tongue, originally pure Hebrew, was in process of time greatly altered. The Arabians were divided into many different tribes; a circumstance which naturally produced many different dialects. These, however, were not of foreign growth. No foreign enemy ever conquered those independent hordes. The Persians, Greeks, and Romans, sometimes attempted to invade their territories; but the roughness of the ground, the scarcity of forage, the penury of water, and their natural bravery, always protected them. They were indeed once invaded by the Abyssinians or Ethiopians with some show of success; but these invaders were in a short time expelled the country. Their language, of consequence, was never adulterated with foreign words and exotic phrases and idioms. Whatever augmentations or improvements it received were derived from the genius and industry of the natives, and from adventitious or imported acquisitions. In this we may justly infer, that the Arabian tongue was long stationary, and differed in no considerable degree from its Hebrew archetype. The learned Schultens, in his Commentary on Job, has shown, to the conviction of every candid inquirer, that it is impossible to understand that subject's composition without having recourse to the Arabic idioms. That patriarch was a Chuzite. His country was a part of Arabia. His three friends were actually Arabians, being the descendants of Ishmael and Esau." (See JOB, ELIPHAZ, JEMINI, &c.) "His country bordered upon that of the predatory Chaldeans, who were an Arabian tribe. When we consider all these circumstances, we are strongly inclined to believe that the book of Job was written in Arabic, as the language stood at that period; which could not have been later than the age of Moses. The learned are generally agreed that this whole book, the 3 last chapters excepted, is a poetical composition, rife with the most brilliant and most magnificent imagery, the boldest, the justest, and most sublimous tropes and allusions, and a grandeur of sentiment wholely divine. Whoever reads the poetical compositions of the modern Arabians, on similar subjects, will discover a striking similarity both of diction and sentiment.

"Of those different dialects which prevailed among the various tribes of Arabia, the principal were the Hemyaret and the Koreish. As for the independent tribes, they had no temptation to cultivate any other language than their own.

"The Koreish tribe was the noblest and the most learned of all the western Arabs; and the Caaba, or square temple of Mecca, was before the time of Mohammed solely under their protection. This temple drew annually a great concourse of pilgrims from every Arabian tribe, and indeed from every other country where the Sabian religion prevailed. The language of the Koreish was studied with emulation by the neighbouring tribes. Numbers of the pilgrims were people of the first rank. Great fairs were held during their residence at Mecca, and a variety of amusements filled up the intervals of their religious duties. In these entertainments literary compositions bore the most distinguished rank; every man of genius considering not his own reputation alone, but that of his nation or tribe, as interested in his success. Poetry and rhetoric were chiefly esteemed and admired. An assembly at *Ocadh*, had been established about the end of the 6th century, where all were admitted to a rivalship of genius. The merits of their respective productions were impartially determined by the assembly; and the most approved of their poems, written on silk, in characters of gold, were with much solemnity suspended in the temple as the highest mark of honour which could be conferred on literary merit. These poems were called the *Moallabat*, *suspended*, or *Modhabebat*, *golden*. Several of these are preserved in many European libraries.

"From this attention to promote emulation, and refine their language, the dialect of the Koreish became the purest, the richest, and the most polite, of all the Arabian idioms. It was studied with a kind of predilection; and about the beginning of the 7th century it was the general language of Arabia, the other dialects being either incorporated with it or sliding gradually into disuse. By this singular idiomatic union the Arabic has acquired a prodigious fecundity; whilst the luxuriance of synonymes, and the equivocal or opposite senses of the same or similar words, hath furnished their writers with a wonderful power of indulging, in the fullest range, their favourite passion for antithesis and quaint allusion. One instance of this we have in the word *veli*; which signifies a *prince*, a *friend*, and also a *slave*. This same word, with the change of one letter only, becomes *vali*; which, without equivocation, imports a *sovereign*. Examples of this kind occur in almost every page of every Arabic dictionary. But all those advantages of this incomparable language are merely modern, and do not reach higher than the beginning of the 6th century.

"The KORAN was written in the dialect of the Koreish; a circumstance which communicated additional splendor to that branch of the Arabian tongue. It has been proved, that the language of the original inhabitants of Arabia was genuine Hebrew; but a question arises, whether the Arabians actually preserved their original tongue pure and unsophisticated during a space of 3000 years, which elapsed between the deluge and the birth of Mohammed? or, whether, during that period, it underwent many changes and deviations from the original standard?—The admirers of that language strenuously maintain the former position; others, who are more moderate in their attachment, are disposed to admit the latter. Chardin observes of the oriental languages in general, that they do not vary and fluctuate with time like the European tongues.

"Prof. John Robertson, and the great Schultens, are clearly of opinion, that the language in question, though divided into a great number of streams and canals, still flowed pure and limpid in its course. But every oriental scholar must confess, that the style of the Koran is in a manner obsolete, and become almost a dead language. If the Arabian has deviated so very considerably from the standard of the Koran in little more than 1000 years,

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years, by a parity of reaſon we may infer, that much greater deviations muſt have affected the language in the ſpace of 3000 years.

It is univerſally allowed by ſuch as maintain the unſullied purity of the Arabian tongue, that it was originally the ſame with the Hebrew, or with the ancient Syriac and Chaldaic. Let any one now compare the words, idioms, and phraſeology of the Koran with the remains of thoſe three languages and the difference will be palpable. This circumſtance, one would think, indicates in the ſtrongeſt terms a remarkable alteration.

"There are ſtrong reaſons to believe that Job was an Arabian, and flouriſhed prior to Moſes, perhaps as early as Jacob. (See Job, § 1.) The ſtyle, the genius, the figurative tone of the compoſition; the amazing ſublimity of the ſentiments, the alluſions, the pathos, the boldneſs, the variety, the irregularity, and the poetical enthuſiaſm which pervade the whole poem, ſtrongly breathe the Arabian ſpirit; indeed the very diction is peculiar to that ſingle book, and differs widely from that of the Pſalms and every poetical part of the ſacred canon. If we compare this book with Mohammed's Koran, we ſhall ſcarce find any reſemblance of words or phraſeology; but a wonderful ſimilarity of figures, enthuſiaſm, and elevation of ſentiments." We then conclude, that the Arabic did actually loſe and gain a multitude of vocables between the era of its firſt eſtabliſhment among the deſcendants of Joktan and Iſhmael and the birth of the impoſtor.

"The art of writing was introduced among the Arabs at a very late period: Without the aſſiſtance of this art, one would think it altogether impoſſible to preſerve any language in its primæval purity and ſimplicity. It is generally agreed, that the art was known among the Hamyarites at a very early period. Theſe people were ſovereigns of Arabia during a courſe of many ages. Their Character was ſomewhat perplexed and confuſed. Monuments bearing inſcriptions in theſe characters are ſtill to be ſeen in ſome places of Arabia. Some were engraved on rocks; and to theſe we think it probable that Job alludes, in thoſe paſſages where he intimates an inclination to have his ſufferings recorded in a book, and graven in the rock for ever. We conclude then, that the Hamyarites knew the art of writing from earlieſt antiquity, and that the letters they employed were the rude Chaldaic in their unimproved ſtate.

"With reſpect to the highly poliſhed Koreiſhites, it is agreed on all hands, that they were unacquainted with the uſe of letters till a few years before the birth of Mohammed. Ebn Chalican, one of their moſt celebrated hiſtorians, informs us, that MORAMER the ſon of Morra, a native of Anbaris, in Irak, firſt invented alphabetical characters, and taught his countrymen to uſe them, from whom this noble invention was derived to the Koreiſhites. Theſe letters, though neither beautiful nor convenient, were long uſed by the Arabs. They were denominated *Cuphite*, from *Cupha* a city of Irak. In this character the original copy of the Koran was written. Theſe we think were the original clumſy characters, which were retained by the vulgar, after the beautiful ſquare Chaldaic letters were invented; and probably uſed by prieſts, philoſophers and the learned in general. Theſe letters are often at this day uſed by the Arabs for the titles of books and public inſcriptions.

"ABAULI the ſon of Mocla, about 300 years after the death of Mohammed, found out a more elegant and more expeditious character. This invention of Abauli was afterward carried to perfection by Ebn Bowia, who died in the year of the hegira 413, when Kader was caliph of Bagdad. This character, with little variation, obtains at this day.

"The viſir above-mentioned, who carried the Arabian alphabet to the pinnacle of perfection, invented and annexed the vowel points for the ſake of eaſe and expedition in writing; from which we may infer, that prior to the 10th century the Arabians had no vowel points. His deſign, in multiplicating theſe points, was confeſſedly eaſe and expedition in writing; which furniſhes a preſumption that the Hebrew vowel points were deſigned at ſome late period for the very ſame purpoſe.

Our room permits us not to follow our author in his learned diſſertation on the richneſs and variety of the Arabic language; on the oratory and poetry of the Arabian authors; or to copy long and learned quotations in praiſe of that people and language, from Bp. *Pococke's Latin version* on that ſubject. "To theſe" (ſays Dr Hunter) "we might add quotations from Erpenius's diſſertion on the ſame ſubject, from Golius, Schultens, Hottinger, Bochart, and Sir William Jones; beſides a whole cloud of oriental witneſſes, whoſe extravagant encomiums would rather amuſe than edify our readers. Theſe panegyrics are perhaps be in ſome meaſure hyperbolical; but in general we believe them pretty well founded. At the ſame time we are convinced that the Arabic, however melodious in the ears of a native, is harſh and unharmonious in that of a European.

"Bochart, Hottinger, Schultens, Pococke, and Robertſon, &c. have laviſhed a profuſion of learning, in proving the affinity and dialectical cognation between the Hebrew and Arabic. The learned profeſſors of the univerſity of Leyden were the firſt who entered upon the career of Arabian learning. To them the European ſtudents are principally indebted for what knowledge of that language they have hitherto been able to attain. The palm of glory, in this branch of literature, is due to Golius, whoſe works are equally profound and elegant; ſo perſpicuous in method that they may always be conſulted without fatigue and read without languor. Erpenius's excellent grammar, and dictionary, will enable the ſtudent to explain the hiſtory of *Tai mur* by *Ibni Arabſhah*. If he has once maſtered that ſublime work, he will underſtand the learned *Arabic* better than moſt of the Khatabs of Conſtantinople or Mecca.

The Arabian language, however, notwithſtanding all its boaſted perfections, has undoubtedly ſhared the fate of other living languages; it has gradually undergone ſuch conſiderable alterations that the Arabic ſpoke and written in the age of Mohammed may be now regarded as a dead language: it is indeed ſo widely different from the mode

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odern language of Arabia, that it is taught and ndied in the college of Mecca just as the Latin at Rome.

ECT. IV. *Of the* CHALDEAN, PHOENICIAN, ETHIOPIAN *or* ABYSSINIAN, *and* EGYPTIAN LANGUAGES.

"As there is a very ſtrict dialectical analogy a-oog theſe languages," (continues our learned au-hor) we have arranged them all under one ſection; ce what is obſerved relating to one of them may e extended to them all.

"The Chaldeans, or *Chaſidim*, as they are cal-d in Scripture, were the deſcendants of Cheſed ſon of Nahor, the brother of Abraham. y drove the Cuſhim or Arabians out of Ba-onia, and poſſeſſed themſelves of that country very early period. As they were the poſte-y of Nahor, the deſcendant of Heber, they un-ubtedly ſpoke the original Hebrew tongue, as as the other branches of that family. But an ingenious inventive people, they ſeem ve polished their language with much care delicacy.

"The only genuine remains of the ancient ldaic language are to be found in the Hebrew ptures; and thoſe are to be contained in 268 es, of which we have 200 in Daniel, reaching verſe 4th chap. 2d. to chap. 8th excluſive; ra 67, in chap. 4th, 27 verſes; chap. 5th, chap. 6th 18; and in chap. 7th, 15: in Jere-chap. 10th there is extant only one verſe. theſe fragments, compared with the He-, it plainly appears, that the difference be-n that language and the Chaldaic is ſcarce e-to that between the Doric and Ionic dialects Greek.

"Whatever might have been the form of the ancient Chaldaic letters, it is generally n that the beautiful ſquare characters, in ch the Hebrew Scriptures began to be written the age of Ezra, were current among them era prior to the Babyloniſh captivity. Thoſe t characters were probably the invention of Chaldean academies, which were eſtabliſhed ous parts of that extenſive and fertile coun-

"The Chaldean declenſions and conjugations ſo little from the Hebrew modifications, it would be ſuperfluous to dwell upon them. moſt effectual way to acquire an idea of the ent Chaldaic, is to decompound the names fectly of that dialect, which occur in many es of Scripture. By this method of proceed-its beautiful ſtructure and expreſſive ener-will be readily comprehended even by the illiterate claſſes of our readers. At the ſame the Chaldaic and ancient Syriac bore ſo near reſemblance to each other, that they have ge-ally been claſſed under one head."

Here Dr. Doig diſplays his perfect knowledge the Hebrew and Chaldaic languages by many ances of ſynonymes in both, from which we ll only quote a few lines:

"Almoſt all the Chaldean proper names which cur either in ſacred or prophane hiſtory are dently of an Hebrew original, or cognate ith that language. We ſhall ſubjoin a few examples: *Nabonaſſar* is evidently compounded of *Nabo* and *nazur*, both Hebrew words, ſignifying *to prophecy* and *to keep*. *Nabopolazar* is made up of *Nabo Pul*, the ſame with *Bel*, *moſt high*, and *Azer*, *girded*, alluding to arms. *Beleſis* is made up of *Bel* and אש *Eſha*, *fire*, Nebuchadnezzar, Belſhazzar, Beltiſhazzar, Nergliſſar, Nebuzaradan, Rabmag, Rabſaris, Nergal-Sharezer, Rabſhakeh, Ezarhaddon, Merodach, Evil Merodach, and numberleſs others, are ſo manifeſtly reducible to Hebrew vocables, when decompounded, that the oriental ſcholar will readily diſtinguiſh them.

"Names of places in the Chaldaic are likewiſe ſo nearly Hebrew, that nothing but the dialectical tone ſeparates them. Thus *Ur* of the Chaldeans is actually אור *light*, that city being ſacred to the ſun; *Sippora* is plainly the Hebrew word *Zipporah*; *Carchemiſh*, a city on the Euphrates, is evidently compoſed of *Kir* or *Kar*, *a city*, and *Chemoſh*, a name of the ſun. In ſhort every Chaldean or old Syrian word now extant, without any difficulty, bewray their Hebrew original.

"We now proceed to the conſideration of the PHOENICIAN language, which is known to have been that of the ancient Canaanites. That this was one of the original dialects, and conſequently a cognate of the Hebrew, is univerſally acknowledged. Inſtead therefore of endeavouring to prove this poſition, we may refer our readers to the works of the learned Mr Bochart, where that author has in a manner demonſtrated this point, by deriving almoſt all the names of the Phœnician colonies from the Hebrew, upon the ſuppoſition that the dialect of thoſe people was cloſely connected with that tongue. St Auguſtine, *de Civitate Dei*, has obſerved, that even in his time many of the vulgar in the neighbourhood of Carthage and Hippo ſpoke a dialect of the old Punic which nearly reſembled the Hebrew. Procopius, *de bello Goth.* informs us, that there exiſted in his days in Africa a pillar with this inſcription in Hebrew, "We flee from the face of Joſhua the robber, the ſon of Nun." The names of all the ancient cities built by the Carthaginians on the coaſt of Africa are eaſily reducible to a Hebrew original. The Carthaginian names of perſons mentioned in the Greek and Latin hiſtory, ſuch as Himilco, Hamilcar, Aſdrubal, Hannibal, Hanno, Dido, Anna or Hannah, Sophoniſba, Giſco, Maherbal, Adherbal, &c. all breathe a Hebrew extraction.

"The Greeks borrowed a great part of their religious worſhip from this people; of conſequence, the names of moſt of their gods are Phœnician. Almoſt every one of theſe is actually Hebrew. The names of perſons and places mentioned in the fragments of Sanchoniathon, preſerved by Euſebius, are all of Hebrew complexion. The names mentioned in the Hebrew ſcriptures, of places which belonged to the Canaanites prior to the invaſion of the Iſraelites under Joſhua, are as much Hebrew as thoſe which were afterwards ſubſtituted in their ſtead.

"The iſland of MALTA (anciently *Melita*) was inhabited by a colony of Phœnicians many ages before the Moors took poſſeſſion of it. Among the vulgar of that iſland many Punic vocables are current

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current to this day, all which may be readily traced up to the Hebrew fountain. To these we may add many inscriptions on stones, coins, medals, &c. which are certainly Phœnician, and as certainly of Hebrew extraction."

Before proceeding to treat of the ancient language of the ETHIOPIANS, our learned author gives an ingenious dissertation, with many quotations from Josephus, Diodorus the Sicilian, Diogenes Laertius, &c. from which he infers, that "the Ethiopians were a colony of Cushites; were originally sovereigns of Shinar or Chaldea, and consequently spoke either Chaldaic or a dialect of that tongue; that their colonists must have used the same language; that the ancient Ethiopians were a people highly polished, and celebrated in the most early ages on account of their virtue and piety; and that the common letters of that people were the sacred character of the Egyptians, or the *Cuphite*: (see *Sect.* III.) For further information we refer our inquisitive readers to the very learned JOB LUDOLF's excellent grammar and dictionary of the Abyssinian or Geeze tongue. We shall here only endeavour to gratify them with a very brief account of the modern Ethiopic Abyssinian tongue: for which we are indebted to the late James Bruce, Esq; that indefatigable and adventurous traveller.

"The most ancient language of *Ethiopia*, (now called ABYSSINIA) was the *Geez*, which was spoken by the ancient Cushite shepherds. This approaches nearest to the old Chaldaic. Upon a revolution in that country, the court resided many years in Amhara, (see ETHIOPIA, § 16;) where the people spoke a different language, or at least a very different dialect of the same language. During this interval, the *Geez*, or language of the shepherds, was dropt, and retained only in writing, and as a dead language: the sacred Scriptures being in that tongue only saved it from going into disuse. This tongue is exceedingly harsh and unharmonious. It is full of these two letters D and T, in which an accent is put that nearly resembles stammering. Considering the small extent of sea that divides this country from Arabia, we need not wonder that it has great affinity with the Arabic. It is not difficult to be acquired by those who understand any other of the oriental languages; and as the roots of many Hebrew words are only to be found here, it seems to be absolutely necessary to all those who wish to obtain a critical skill in that language.

"The Ethiopic alphabet consists of 26 letters, each of which, by a *virgula* or point annexed, varies its sound in such a manner, as that those 26 form as it were 62 distinct letters. At first they had but 25 of these original letters, the Latin P being wanting; so that they were obliged to substitute another letter in its place. *Paulus*, for example, they call *Taulus*, *Aulus*, or *Caulus*: *Petros*, they pronounce *Ketros*. At last they substituted T, and added this to the end of their alphabet; giving it the force of P, though it was really a repetition of a character rather than the invention of a new one. Besides these, there are 20 others of the nature of dipthongs.

"The Amharic, during the long banishment of the royal family in Shoa, became the language of the court, and 7 new characters were added to answer the pronunciation of this new language but no book was ever yet written in any other language than *Geez*. There is an old law in the country, handed down by tradition, that whoever shall attempt to translate the Holy Scripture into Amharic or any other language, his throat shall be cut after the manner in which they kill sheep, his family sold to slavery, and their houses razed to the ground.

"The most ancient name of EGYPT was *Mizraim*, of consequence the inhabitants still call *Mesri*. It appears from the sacred historian, that it was inhabited by the descendants of Mizraim the 2d son of Ham. Mizraim had several sons settled in that country. The language of Mizraim appears to be one of the fifty dialects of the Hebrew, Phœnician, Arabic, Chaldaic, &c. But the origin of that people, their language, religion, laws, and institutions, have been so warped and confounded, both by their own historians and those of other countries, that one is scarce able to determine what to believe or what to reject." But we are assured by the sacred records that Egypt was a populous, rich, and flourishing kingdom, as early as the age of Abraham. That the Delta, or *Lower Egypt*, been a pool of standing water, (as Herodotus, Diodorus, Strabo pretend,) at any time after the general deluge could not have been drained, cleared, cultivated and stocked with inhabitants, so early as the days of Abraham.

"Diodorus Siculus, however, is positive that the Egyptians were a colony of Ethiopians; this he endeavours to prove by the similarity of features, customs, laws, religious ceremonies, &c. between the two nations. That there was a constant intercourse of good offices between the two branches of the Hamites, cannot be questioned.

"We have already hinted our opinion of the nature of the Egyptian language; but that Egypt is generally thought to have been the native land of hieroglyphics, and because most men of opinion that hieroglyphical characters were prior to alphabetical, we shall hazard a few conjectures with respect to that species of writing.

"The end of speech in general, is to enable men to communicate their thoughts and conceptions one to another when present; the end of writing is to perform the same office when persons are at a distance. Hieroglyphics are said to have been invented to supply this defect. The most ancient languages were every where full of tropes and figures borrowed from sensible objects. This circumstance would naturally suggest to savages the idea of conveying their sentiments to each other, when absent, by delineations of corporeal objects. Thus, if a savage asked a loan of his friend's horse, he might convey to him the figure of that animal; and so of others. This was the very lowest species of ideal communication, and has been styled *picture-writing*.

"Some savage leader, more sagacious than the vulgar herd, would observe that certain sensible objects were fitted, to represent certain human passions, and even some abstract ideas. Thus in this case a *horn* might be the emblem of *power*, a *sword* of *bravery*, a *lion* of *fury*, a *fox* of *cunning*,

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a *serpent* of *malice*, &c. By and by artificial signs might be contrived to express such ideas as could not readily be denoted by bodily objects. This might be called *symbolical writing*. Such was the foundation of the Chinese characters; and hence that prodigious number of letters of which the written language of that people is composed. Farther they could not proceed, notwithstanding their natural inventive powers; and farther, we believe, no nation ever did proceed, who had once no other characters but hieroglyphical. The Mexicans had arrived at hieroglyphical writing, but had not taken one step towards alphabetical. The Peruvians employ hieroglyphical symbols, but never attained a single idea of alphabetical. In a word, we think that there is not the least analogy between these two species to conduct from the one to the other: we are therefore of opinion, that hieroglyphical characters were never the vulgar channels of ideal conveyance among civilized people.

In this point we differ from many learned, curious, and ingenious writers; some of whom have investigated the intermediate stages through which the fabricators of characters must have passed from hieroglyphical to alphabetical writing. For our part, we have endeavoured to prove, that alphabetical writing was an antediluvian invention; and we now lay it down, that among all the nations which settled near the centre of civilization, hieroglyphics were, comparatively, a modern fabrication.

The Orientals are extravagantly devoted to fable and fiction. Plain unadorned truth with them has no charms. Hence that extravagant mixture of fables and romance with which all antiquity is replete, and by which all ancient history is vitiated and corrupted. Every doctrine of religion, every precept of morality, was tendered to mankind in parables and proverbs. It was a maxim of the ancients an universal opinion, that the sacred arcana of religion, morality, and the abstruser sciences, were not to be communicated to *uninitiated rabble*. For this reason every thing sacred was involved in allegorical darkness. (MYSTERIES, § 3, 4.)

Here, then, we ought to look for the origin of hieroglyphical or picture-writing among the civilized nations of the east. They employed that species of writing to conceal the most important articles of their doctrines. The Egyptian priests were most celebrated for their skill in devising those emblematical representations; but other nations likewise employed them. We learn from fragments of Berosus, preserved by Syncellus and Alexander Polyhistor, that the walls of the temple of Belus at Babylon were covered all over with these emblematical paintings. These characters were called $\alpha\gamma\alpha\lambda\mu\alpha\tau\alpha$, because they were chiefly employed to represent sacred objects; and $\gamma\lambda\upsilon\phi\alpha\iota\alpha$, because they were originally carved or engraved. The name points to their original use. See Herod. l. ii. Diod. Sic. l. i. Strabo, l. xvii. Plut. his Osiris; Clem. Alex. Euseb. Præp. Evang. Horapollo's Hieroglyphica, &c.

The Egyptians ascribed the invention of letters to *Thoth*, *Theuth*, or *Thyoth*; the Greeks to Hermes; and the Romans *Mercurius*. (See HERMES, MERCURY, and THOTH.) He was probably some eminent inventive genius, who flourished during the first ages of the Egyptian monarchy, and taught the rude savages the art of writing.

"According to Diodorus Siculus, the Egyptians had two kinds of letters; the one sacred, the other common: the former the priests taught their own children, the latter all learned promiscuously. Clemens Alex. mentions three different styles of writing employed by the Egyptians: 1. *Epistolography*, or writing letters; 2. the sacred character, which the sacred scribes employed; 3. the hieroglyphic character, one part of which is expressed by the first elements, and called *Cyriologic*, that is, *capital*, and the other *symbolic*.

"The most faithful specimen, of the vulgar language of the Egyptians, is, we believe, still preserved in the Coptic, which, however, is so replete with Grecisms, that it must be difficult to trace it out. Under the Ptolemies, the Greek was the language of the court, and consequently must have diffused itself over all the country. Hence, we believe, two thirds of the Coptic are Greek words, diversified by their terminations, declensions, and conjugations only. See Christian Scholtz's Egyptian and Coptic grammar and dictionary, corrected and published by Godfred Woide, Oxford, 1788.

"The Egyptians and Phœnicians must have spoken the same language, one of the purer dialects of the Hebrew, Chaldean, Arabian, Cushite, &c.—This is not a mere conjecture; it may be proved by many examples. It is true, that when Joseph's brethren went down to Egypt, they could not understand the Egyptian idiom which he spoke; nor would he, had he been actually an Egyptian, have understood them without an interpreter. But by this time the Egyptian had deviated considerably from the original language of mankind. The Erse, spoken in the Highlands of Scotland, and the Irish, are known to be both branches of the old Celtic; yet a Scotch Highlander and an Irishman can hardly understand each other. The Hebrew dialect had been in a manner stationary, from the migration of Abraham to that period; whereas the Egyptian, being spoken by a powerful, civilized, and highly cultivated people, must have received many improvements, in two centuries.

"CADMUS was originally an Egyptian; that leader brought a new set of letters into Greece. These are generally deemed to be Phœnician. They were nearly the same with the ancient Pelasgic. Danaus, Perseus, Lelex, &c. were of Egyptian extraction: they too adopted the Cadmean characters, without substituting any of their own. The Jonim, or IONIANS, emigrated from Gaza, a colony of Egyptians, and their letters are known to have differed very little from those of Cadmus and the Pelasgi. The conclusion, therefore, is, that the vulgar Egyptian letters were the same with the Phœnician.

"We are sensible that there are found upon Egyptian monuments characters altogether different from those we have been describing. The Ethiopians, the Chaldeans, the Persians, the Greeks, the Romans, the Saracens, have, at different times, been sovereigns of that unhappy country. Perhaps

haps other nations, whose memory is now buried in oblivion, may have erected monuments, and covered them with inscriptions composed of words taken from different languages."

The learned Dr next proceeds "to show, that most part of the names of persons and places, &c. which have been conveyed down to us, may, in general, be reduced to a Hebrew, Phœnician, Syrian, or Chaldean original." This he does in a manner which must be highly interesting to those who are acquainted with the oriental languages; but which, to the majority of English readers, would afford neither instruction nor entertainment. But from this specimen Dr Doig seems clearly to prove, that the Egyptian language in the more early ages was one of those dialects, into which that of the descendants of the postdiluvian patriarchs was divided, a few centuries after the deluge." Our learned readers may consult Bochart's *Chanaan*, Walton's *Proleg.* Cebelin's *Monde Prim.* Jamefon's *Spicilegia*, &c.

Sect. V. *Of the* Persian Language.

"The Persian language (says Dr Doig,) is divided into the ancient and modern; the former of which is at this day very imperfectly known, the latter is at present one of the most expressive, and at the same time one of the most highly polished, in the world.

"When Mohammed was born, and Anu'shi'rava'n, whom he calls the *just king*, sat on the throne of Persia, two languages were generally prevalent in that empire. The one was called *Deri*, and was the dialect of the court, being only a refined and elegant branch of the *Parsi*; and that of the learned, in which most books were composed, and which had the name of *Pahlavi*, either from the heroes who spake it in former times, or from *Pahlu*, a tract of land which included some considerable cities of *Iran*. Besides these a very ancient and abstruse tongue was known to the priests and philosophers, called the language of the Zend, because a book on religious and moral duties which they held sacred, and which bore that name, had been written in it; while the *Pazend* or comment on that work was composed in *Pahlavi*, as a more popular dialect. The letters of this book were called *zend*, and the language *avesta*.

"The Zend and the old *Pahlavi* are now almost extinct in *Iran*, and very few even of the Guebres can read it; while the *Parsi*, remaining almost pure in *Shahnameh*, has, by the intermixture of Arabic words, and many imperceptible changes, now become a new language exquisitely polished by a series of fine writers both in prose and verse.

"The very learned Sir William Jones is confident that the *Parsi* abounds with words from the Shanscrit, with no other change than such as may be observed in the numerous dialects of India; that very many Persian imperatives are the roots of Shanscrit verbs; and that even the moods and tenses of the Persian verb substantive, which is the model of all the rest, are deducible from the Shanscrit by an easy and clear analogy. From this he infers that the *Parsi*, like the various idiom dialects, is derived from the language of the Bramins. This conclusion, however, is doubted by Dr Doig. "The Pazend, according to Sir William, was a dialect of the Chaldaic;" and of this he exhibits various etymological proofs, which we need not quote, but from which "it plainly appears, 1st, that Pahlavi was the ancient language of Persia; and, 2d, that the ancient Persian was a cognate dialect of the Chaldean, Hebrew, Arabic, Phœnician, &c. M. Anquetil has annexed to his translation of *Zendavesta* two vocabularies in Zend and Pahlavi, which he found in a collection of Rowayet or *Traditional Pieces* in modern Persian. The vocabulary of the Pahlavi confirms this opinion concerning the Chaldaic origin of that language. But with respect to the Zend, it abounded with vast numbers of pure Shanscrit words, to such a degree, that 6 or 7 words in ten belonged to that language.

"From this it would appear, that the ancient languages of Persia were Chaldaic and Shanscrit, and that when they had ceased to be vernacular the Pahlavi and Zend were deduced from them respectively, and the Parsi either from the Zend or immediately from the dialect of the Brahmans; but all had a mixture of Tartarian; for the lexicographers assert, that numberless words in ancient Persian are taken from the Cimmerians. Colonies emigrated from Persia into Crim Tartary. Emigrants from those quarters must have found their way into Scandinavia, as numberless Persian words are still current in those regions.

"With respect to the Zend, it might well be a dialect of the Shanscrit, and was probably considered language. If Zoroastres, or Zaratus as the orientals call him, travelled into India, and was initiated in the mysteries of the Egyptian religion, he might be instructed in the sacred dialect of that people by the priests. When he returned into Persia, and became the apostle of a new religion, he might compose the volume of his laws in the sacred language. This language then became that of the Magi, who concealed it from the uninitiated, as the priests did in Egypt and the Brahmans in Hindostan.

"To corroborate the cognation between the Chaldean and Pahlavi languages, we shall adduce a few arguments from the Mosaic history, and other writings of the Old Testament.

"Elam is always allowed to have been the progenitor of the Persians. This patriarch was the son of Shem the son of Noah; and his posterity settled near the descendants of Athur, Arphaxad, Lud, and Aram, the other sons of Shem. The country where they settled was denominated Elymais as late as the beginning of the Christian era. This name was retained till the Saracens conquered that country. The Elamites or Persians spoke a dialect of the primary language, which we have proved to have been the Hebrew.

"When the four eastern monarchs invaded the five cities of the plain in Canaan, (Gen. xiv.) Chedorlaomer, king of Elam, was at the head of the confederacy. Amraphel king of Shinar, that is Babylon or Chaldea, Arioch king of Ellasar, and Tidal, king of some scattered nations in the neighbourhood, were his allies. This passage demonstrates, that Elam, Shinar, and Ellasar were contiguous, and were engaged in the same cause. Wherever this country is mentioned in Scripture

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prior to the era of Daniel and Ezra, it is always under the name of *Elam*.

"The Scythians, whom the old Perſians called SAKA, and whom the moderns call TURAN, often over-ran Perſia at a very early period. The conſequence was, an infuſion of Scythian or Tartarian terms, with which that language was early impregnated. This probably occaſioned the firſt deviation from the original ſtandard. The conquests of Alexander, and the dominion of his ſucceſſors, muſt, one would imagine, introduce an innovation of Greek words. That event, however, ſeems to have affected the language in no great degree, at leaſt very few Grecian terms occur in the modern Perſian.

"The empire of the PARTHIANS produced a very important alteration upon the ancient Perſian. They were a demi Scythian tribe; and, as they conquered the Perſians, retained the dominion for ſeveral centuries, and incorporated with the natives, their language muſt have given a deep tincture to the original dialect of the Perſians. Sir William Jones has obſerved, that the letters in the inſcriptions at *Iſtakhar*, or Perſepolis, bear a near reſemblance to the old Runic letters of the Scandinavians. Thoſe inſcriptions we take to be been Parthian. The Perſians, it is true did once more recover the empire; and under them began the reign of the Deri and Paſi tongues: the former conſiſting of the old Perſian and Parthian highly poliſhed; the latter of the ſame languages in their uncultivated vernacular dreſs. In this ſituation the Perſian language remained till the invaſion of the Saracens in 636; when theſe barbarians overran that fine country; demoliſhed every monument of antiquity, records, temples, palaces; maſſacred or expelled the miniſters of the Magian idolatry; and introduced a language, though not entirely new, yet widely differing from the old.

"In modern Perſian we find the ancient Perſian names wonderfully diſtorted from that form under which they appear in the Scripture, in Herodotus, Megaſthenes, and the other Greek authors. From this it has been inferred, that not only the Greeks, but even the Jews, have changed and metamorphoſed them, to accommodate them to the genius of their own language. As to the Greeks, we know it was their practice, but the Hebrews, we make no doubt, wrote and pronounced the names of the Perſian monarchs and governors nearly in the ſame manner with the native Perſians. It is manifeſt, beyond contradiction, that they neither altered the Tyrian and Phœnician names of perſons and places, when they had occaſion to mention them, nor thoſe of the Egyptians when they occurred in their writings. The Babyloniſh and Chaldaic names, which are mentioned in the Old Teſtament, vary nothing from the Chaldean original. In Ezra, Nehemiah, and Eſther, we find the Perſian names faithfully preſerved throughout.

"The fact is this: Our modern admirers of the Perſic have borrowed their names of the ancient kings and heroes of that country, from romances and fabulous legends of modern date and compoſition. The archives of Perſia were deſtroyed by the Saracens: nothing of importance was written in that country till two centuries after the era of Mohammed. What ſucceeded was all fiction and romance. Upon this fabulous foundation, the learned Mr Richardſon has erected a very romantic fabric, which he thinks ſufficient to invalidate the credit of the moſt authentic Grecian hiſtorians of that empire; tho' the fables, on which he founds, were not written till near 1000 years after the pretended events had happened, and 200, after all the Perſian records had been deſtroyed by the Saracens.

"After the deciſive victory obtained over the Perſians at Kadeſſa, their ancient government was overturned, their religion proſcribed, their laws trampled under foot, and their civil tranſactions diſturbed by the forcible introduction of the lunar for the ſolar kalendar; while their language became almoſt overwhelmed by an inundation of Arabic words; which from that period, religion, authority, and faſhion incorporated with their idiom.

"From the 7th till the 10th century, the Perſian tongue, now impregnated with Arabic words, appears to have been neglected. Bagdad, built by Almanſor, became ſoon after the year 762 the chief reſidence of the khalifs, and the general reſort of the learned and the ambitious from every quarter of the empire. At length the acceſſion of the Buyah princes to the Perſian throne marked in the 10th century the great epoch of the revival of Perſian learning. About 977 the throne of Perſia was filled by the great Azaduddawla; who firſt aſſumed the title of *Sultan*. He was born in Iſpahan, and had a ſtrong attachment to his native kingdom. His court was the ſtandard of taſte and the reſidence of genius. The native dialect of the Prince became ſoon the general language of compoſition in almoſt every branch of polite learning. From the end of the 10th till the 15th century may be conſidered as the moſt flouriſhing period of Perſian literature. The epic poet FIRDAUSI, in his romantic hiſtory of the Perſian kings and heroes, diſplays an imagination and ſmoothneſs of numbers hardly inferior to Homer. The whole fanciful range of Perſian enchantment he has interwoven in his poems, which abound with the nobleſt efforts of genius. This bard has ſtamped a dignity on the fictions of the eaſt, equal to that which Homer has given to the mythology of ancient Greece. His language may be conſidered as the moſt refined dialect of the ancient Perſian. Ebn Fekreddin Anju, in the preface to the dictionary called *Farhang Jehanguiri*, ſays, that the Deri and the Arabic idioms were the languages of heaven.

"For near 300 years the literary fire of the Perſians ſeems to have been almoſt extinguiſhed. In taſte, the orientals are undoubtedly inferior to the beſt writers of modern Europe; but in invention and ſublimity, they are equalled by none. The Perſians affect a rhetorical luxuriance, which to a European wears the air of unneceſſary redundance. Amongſt the oriental hiſtorians, philoſophers, rhetoricians, and poets, many will be found who would do honour to any age or people; whilſt their romances, their tales, and their fables, ſtand upon a ground which Europeans have not powers to reach. The preſent language of Per-

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ha is partly Arabic and partly Perſian, though the latter generally has the aſcendant. The former is nervous, impetuous, and maſculine; the latter is flowing, ſoft, and luxuriant. Their letters are the Arabic with little variation: their alphabet conſiſts of 32 letters, which, like the Arabic, are read from right to left. The letters are divided into vowels and conſonants. The Arabic characters are written in a variety of different hands.

"There is a great reſemblance between the Perſian and Engliſh languages in the ſimplicity of their form and conſtruction; having no difference of terminations to mark the gender either in ſubſtantives or adjectives; all inanimate things are neuter; and animals of different ſexes have either different names, or are diſtinguiſhed by the words, *ner* male, and *made* female. Sometimes indeed a word is made feminine after the manner of the Arabians, by having *a* added to it. The Perſian ſubſtantives have but one variation of caſe, which is formed by adding a ſyllable to the nominative in both numbers; and anſwers often to the dative, but generally to the accuſative caſe, in other languages. The other caſes are expreſſed for the moſt part by particles placed before the nominative. The Perſians have two numbers, ſingular and plural; the latter is formed by adding a ſyllable to the former. The Perſian adjectives admit of no variation in the degrees of compariſon. The comparative is formed by adding *ter* and the ſuperlative by adding *terin* to the poſitive.

"The Perſians have active and neuter verbs, but many of their verbs have both an active and neuter ſenſe, determined only by the conſtruction. Thoſe verbs have properly but one conjugation, and but three changes of tenſe; the imperative, the aoriſt, and the preterite; all the other tenſes being formed by particles or auxiliary verbs. The paſſive voice is formed by adding the tenſes of the ſubſtantive verb to the participle of the active.

"In the ancient language of Perſia, there were few or no irregularities; the imperative, which is often irregular in the modern Perſian, was anciently formed from the infinitive, till the Arabs introduced their harſh conſonants, which obliged the Perſians to change the old termination of ſome verbs, and by degrees the original infinitive grew quite obſolete; yet they ſtill retain the ancient imperative, and the aoriſts formed from it. This is the only anomalous part of the Perſian language; which nevertheleſs far ſurpaſſes in ſimplicity all other languages ancient or modern. With reſpect to the more minute and intricate parts of this language, as well as its derivations, compoſitions, conſtructions, &c. we muſt remit our readers to Miniſkie's *Inſtitutiones Linguæ Turcicæ cum rudimentis parallelis linguarum Arab. et Perſ.* Sir William Jones's Perſian Grammar; Mr Richardſon's Arabian and Perſian Dictionary; D. Herbelot's *Bibl. Orient.* Dr Hyde *de Relig. vet. Perſ.* &c. Numberleſs events are preſerved in the writings of the orientals, which were never heard of in Europe, and muſt have for ever lain concealed from the knowledge of its inhabitants, had not the Perſian and Arabic tongues been ſtudied and underſtood by the native of this quarter of the globe. Many of thoſe events have been tranſmitted to poſterity in poems and legendary tales like the Runic fragments of the north, the romances of Spain, or the Heroic ballads of our own country. The knowledge of theſe two languages has laid open to Europe all the treaſures of oriental learning, and has enriched the minds of Britons with Indian ſcience, as much as the produce of theſe regions has increaſed their wealth and enervated the conſtitution.

As to poetry, the modern Perſians borrowed their poetical meaſures from the Arabs: they are exceedingly various and complicated; they conſiſt of 19 different kinds; but the moſt common of them are the *Iambic* or *Trochaic* meaſure, or a metre that chiefly conſiſts of thoſe compound feet which the ancients called Ionics, compoſed of iambi and ſpondees alternately. In lyric poetry their verſes generally conſiſt of 12 or 16 ſyllables; they ſometimes, but ſeldom, conſiſt of 8. Some of their lyric verſes contain 13 ſyllables: but the moſt common Perſian verſe is made up of 10, and in this meaſure are written all their grand poems, whether upon heroic or moral ſubjects, as the works of Firdauſi and Jami, the Buſtan of Sadi, and the Meſnavi of Geraleddin. This kind of verſe anſwers to our common heroic rhyme, which was brought to ſo high a degree of perfection by Pope. The ſtudy of the Perſian poets is ſo much the more neceſſary, as there are no books or even letters written in that language which are not interſperſed with fragments of poetry. As to their proſody, nothing can be more eaſy and ſimple.

Sect. VI. *Of the* Shanscrit *and* Bengal Languages.

"The Shanscrit (ſays our author,) though of the moſt ancient languages in the world, is little known even in Aſia, till about the middle of the 10th century. Since that period, by the indefatigable induſtry of the ingenious Sir William Jones and the other worthy members of that ſociety of which he was founder and president, that noble and ancient language has at length been brought to light; and from it the treaſures of oriental knowledge will be communicated both to Europe and Aſia; knowledge which without the exertions of that eſtabliſhment, and have lain concealed from the reſearches of mankind to the end of the world.

"The Shanſcrit language has for many centuries lain concealed in the hands of the brachmans Hindoſtan. It is by them deemed ſacred, and of conſequence confined ſolely to the offices of religion. Its name imports *the language of perfection*. It appears to have been once current over moſt of the oriental world. Traces of its original extent may be diſcovered in almoſt every diſtrict of Aſia. Thoſe who are acquainted with it have often found the ſimilitude of Shanſcrit words to thoſe of Perſian and Arabic, and even of Latin and Greek; and that not in technical and metaphorical terms, but in the ground-work of language, in monoſyllables, the names of numbers and appellations of ſuch things as would be firſt diſcriminated on the dawn of civilization.

"The ancient coins of many different and diſtant kingdoms of Aſia are ſtamped with Shanſcrit characters

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characters, and moſtly contain alluſions to the old Shanſcrit mythology. But though numberleſs changes and revolutions have convulſed Hindoſtan, that part of it which lies between the Indus and the Ganges ſtill preſerves that language inviolate. The fundamental part of the Shanſcrit language is divided into three claſſes: *Dhaat*, or roots of verbs; *Shabd*, or original nouns; and *Evya*, or particles. The latter are ever indeclinable, but the words comprehended in the two former claſſes muſt be prepared by certain additions and inflections to fit them for compoſition. Not a ſyllable, not a letter, can be added or altered but by certain rules; not the moſt trifling variation of the ſenſe, in the minuteſt ſubdiviſion of declenſion or conjugation, can be effected without the application of ſeveral rules. The number of the radical or elementary parts is about 700; and to theſe, a very plentiful ſtock of verbal nouns owes its origin. The Shanſcrit language is very copious and pure. The firſt of theſe qualities ariſes to a meaſure from the vaſt number of compound words with which it is almoſt overſtocked. "The Greek (ſays Sir William Jones,) like the Greek, Latin, and German, delights in compounds; but in a much higher degree, and indeed to ſuch extent that I could produce words of more than 20 ſyllables; not formed ludicrouſly like that by which the buffoon in Ariſtophanes deſcribes a feaſt, with perfect ſeriouſneſs, on the moſt ſolemn occaſions, and in the moſt elegant works." But one of its beſt authors is wonderfully conciſe. The regularity of its etymology it far exceeds Greek and Arabic; and, like them, has a prodigious number of derivatives from each primary word. The grammatical rules alſo are numerous and difficult, though there are not many anomalies. There are 7 declenſions of nouns, all uſed in the ſingular, dual, and plural numbers, and all differently formed, according as they terminate with a conſonant, with a long or a ſhort vowel; and as they are of different genders, not a nominative can be formed to any one of theſe nouns without the application of at leaſt *four rules*, which are likewiſe with each particular difference of caſes, as above ſtated: add to this, that every verb in the language may be uſed through all the declenſions, which is a full proof of the difference of the idiom;" —and conſequently, (we add) of the *imperfection* of this *very perfect* language.

The Shanſcrit alphabet contains 50 letters; and the boaſt of the Bramins, that it exceeds all other alphabets in this reſpect: but as of their 34 conſonants, near half carry combined ſounds, and all their vowels are merely the correſpondent vowels to as many ſhort, the advantage ſeems little more than fanciful. The Shanſcrit language comprehends a very great variety of different meaſures, of 8, 11, 12 or 19 ſyllables. The Shanſcrit language is impregnated with Perſian, Chaldaic, Arabian, Greek, and even Latin idioms. This is a preſumption that it was one of thoſe original dialects which were gradually propagated by the deſcendants of Noah, in proportion as they gradually receded from the centre of population; and that the Hindoos were a colony from the deſcendants of the patriarch Shem.

"It appears, however, by almoſt numberleſs monuments of antiquity ſtill exiſting, that at a very early period a different race of men had obtained ſettlements in that country. It is generally admitted, that colonies of Egyptians had peopled a conſiderable part of Hindoſtan. Numberleſs traces of their religion occur everywhere in thoſe regions. The learned preſident himſelf is poſitive, that veſtiges of thoſe ſacerdotal wanderers are found in India, China, Japan, Tibet, and many parts of Tartary. Thoſe coloniſts were zealous in propagating their religious ceremonies wherever they reſided, and travelled. There is even at this day a ſtriking reſemblance between the ſacred rites of the vulgar Hindoos and thoſe of the ancient Egyptians. Sir William Jones hath juſtly obſerved, that the letters of Shanſcrit, ſtript of all adventitious appendages, are really the ſquare Chaldaic characters We learn from Caſſiodorus, that the ſacred letters of the Egyptians were Chaldaic, and it is allowed that thoſe of the bramins were of the ſame complexion.

"That the Egyptians had at a very early period penetrated into Hindoſtan, is univerſally admitted. Oſiris, their celebrated monarch and deity, according to their mythology, conducted an army into that country; taught the natives agriculture, laws, religion, the culture of the vine, &c. Seſoſtris, another Egyptian potentate, likewiſe over-ran Hindoſtan with an army, and taught the natives many uſeful arts and ſciences. When the paſtor kings conquered Egypt, it is probable that numbers of the prieſts, to avoid the fury of the mercileſs invaders, left Egypt and went into India. Theſe were the authors both of the language and religion of the bramins. The Indians cultivated, improved, and diverſified it.

"Though moſt of the ancient oriental tongues are read from right to left, like the Hebrew, Chaldaic, Arabic, &c. yet ſuch as properly belong to the whole continent of India proceed from left to right, like thoſe of Europe. The great number of letters, the complex mode of combination, and the difficulty of pronunciation, are conſiderable impediments to the ſtudy of the BENGAL language; and the ignorance of the people, and inaccuracy of their characters, aggravate theſe inconveniences.

"The Bengal alphabet, like that of the Shanſcrit, conſiſts of 50 letters, whoſe form, order, and ſound, may be learned from Mr Halhed's grammar. The vowels are divided into long and ſhort, the latter of which are often omitted. Moſt of the oriental languages are conſtructed upon the ſame principle, with reſpect to the omiſſion of the ſhort vowel.

"In the Bengal language there are three genders. The terminations are *aa* for the maſculine, and *ee* for the feminine. In Shanſcrit, the names of all things inanimate have different genders, founded on vague and incomprehenſible diſtinctions: the ſame is the caſe with the Bengal.

"Every Shanſcrit noun has 7 caſes, excluſive of the vocative; and therefore comprehends two more than even thoſe of the Latin. The Bengal has only 5 caſes.

"In moſt languages where the verb has a ſeparate inflection for each perſon, that inflection is ſuf-

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sufficient to ascertain the personality; but in Bengal compositions, though the first and second persons occur very frequently, nothing is more rare than the usage of the pronoun of the third; and names of persons are inserted with a constant and disgusting repetition, to avoid, the application of the words HE and SHE. The second person is always ranked before the first, and the third before the second. The personal pronouns have 7 cases, which are varied in a very irregular manner.

"The Shanscrit, the Arabic, the Greek and Latin verbs, are furnished with a set of inflections and terminations so comprehensive and so complete, that by their form alone they can express all the different distinctions both of persons and time. Three separate qualities in them are perfectly blended and united. Thus by their root they denote a particular act, and by their inflection both point out the time when it takes place and the number of the agents. In Persian, as in English, the verb admits but of two forms, one for the present tense and one for the aorist; and it is observable, that while the past tense is provided for by a peculiar inflection, the future is generally supplied by an additional word conveying only the idea of time, without any other influence on the act implied by the principal verb.

"Every Shanscrit verb has a form equivalent to the middle voice of the Greek, used through all the tenses with a reflective sense, and the former is even the most extensive of the two in its use and office: for in Greek the reflective can only be adopted intransitively when the action of the verb descends to no extraneous subject; but in Shanscrit, the verb is both reciprocal and transitive at the same time.

"Neither the Shanscrit, nor the Bengalese, nor the Hindostanic, have any word precisely answering to the sense of the verb *I have*, and consequently the idea is always expressed by a phrase synonymous with *est mihi*; and of course there is no auxiliary form in the Bengal verb correspondent to *I have written*, but the sense is conveyed by another mode. The verb substantive, in all languages is defective and irregular, and therefore the Shanscrit calls it a *semi-verb*. The present tense of this verb, in Greek, Latin, and Persian, appears to be derived from the Shanscrit. In the Bengalese, this verb has but two distinctions of time, the present and the past; the terminations of the several persons of which serve as a model for those of the same tense in all other verbs respectively.

"Verbs of the Bengal language may be divided into three classes, which are distinguished by their penultimate letter. The simple and most common form has an open consonant immediately preceding the final letter of the infinitive. The second is composed of those words whose final letter is preceded by another vowel or open consonant going before it. The third consists entirely of causals derived from verbs of the first and second conjugations.

"The Greek verbs in μι are formed exactly upon the same principle with the Shanscrit conjugations, even in the minutest particulars. Instances of this are produced in many verbs, which from a root form a new verb by adding the syllable *mi*, and doubling the first consonant. This mode furnishes another presumption of the Egyptian origin of the Shanscrit. Many Greeks travelled into Egypt; many Egyptian colonies settled in Greece.

"To form the past tense, the Shanscrit applies a syllabic augment; the future has for its characteristic a letter anagolous to that of the future tense in the Greek, and it omits the reduplication of the first consonant. The reduplication of the first consonant is not constantly applied to the present tense of the Shanscrit more than to that of the Greek. The natural simplicity and elegance of many of the Asiatic languages are greatly debased and corrupted by the continual use of auxiliary verbs; and this inconvenience has evidently affected the Persian, the Hindostanic, the Bengal idioms.

"The infinitives of verbs in the Shanscrit, Bengalese are always used as substantive nouns. In the Shanscrit language, as in the Greek, the forms of infinitives and of participles comprehensive of time; there are also other branches of the verb that seem to resemble the gerunds and supines of the Latin. All the terms which serve to qualify, to distinguish, or to augment, either *substance* or *action*, are classed by the Shanscrit grammarians under one head; and the word used to express it literally signifies *increase* or *augment*. According to their arrangement, a simple sentence consists of three members; the *agent*, the *action*, and the *subject*: which, in a grammatical sense, are reduced to two; the *noun* and the *verb*. There is also a particular word to specify such words as serve to qualify the noun which imports quality, and answers to our *adjectives* or *epithets*: Such as are used to denote relation or connection, are intimately *a preposition*.

"The adjectives in Bengalese have no distinction of gender or number; but in Shanscrit such words preserve the distinction of gender, as in Greek and Latin. Prepositions are substituted by cases. The Latin is less polished than the Greek, and of consequence bears a much nearer resemblance to the Shanscrit, both in words, inflections and terminations.

"The learned are now convinced that the use of numerical figures was first derived from India. Indeed the antiquity of their application in that country far exceeds the powers of investigation. All the numerals in Shanscrit have different forms for the different genders, as in Arabic. There is a strong probability that the European method of computation was derived from India, as it is in the same with the Shanscrit, though we think the Europeans learned it from the Arabians."

SECT. VII. *Of the* CHINESE LANGUAGE.

"THE Chinese, (says Dr Doig,) according to the most authentic accounts, are a people of great antiquity. Their situation was such, as in the earliest ages of the world, in a great measure secured them from hostile invasion. As China is a large and fertile country, producing all the necessaries, conveniencies, and even luxuries of life, its inhabitants were under no necessity of engaging in foreign commerce. Satisfied with the articles which their own country produced, they appear

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themſelves entirely to agriculture and the arts connected with it; and their frugality, though their population was almoſt incredible, rendered the produce of their ſoil abundantly ſufficient. Their inventions were their own; and as they borrowed nothing from other people, they gradually began to deſpiſe the reſt of mankind, and, like the ancient Egyptians, branded them with the epithet of *barbarians*.

Their people had at an early period made a conſiderable proficiency in the mechanical arts. Their progreſs in the liberal ſciences was by no means in proportion. In mathematics, geometry, and aſtronomy, their knowledge was contemptible; and in ethics, their laws and cuſtoms prove their ideas to have been truly ſuperficial. They value themſelves very highly upon their oratorial talents; "yet of all languages ſpoken by any civilized people, their's is the leaſt improved." The learned Bonc, who traces all other languages from that of Adam, is obliged to give up the Chineſe. "The language of the Chineſe (ſays he) was totally different from thoſe of all other nations, and bears very ſtrong ſignatures of an original tongue. Their words are monoſyllabic, and compoſitions and derivations are altogether unknown. Their nouns and verbs admit of no flexions: in ſhort, every thing relating to their idioms is peculiar, and incapable of being compared with any other that is ſpoken by any civilized people. Moſt barbarous languages exhibit ſomething that reſembles an attempt towards thoſe diacritical modifications of ſpeech; whereas the Chineſe, after a ſpace of many years, have not advanced one ſtep beyond the very firſt elements of ideal communication." (CHINESE, § 16.) This circumſtance is a ſtrong demonſtration, that they did not emigrate from that region where the primitive race of mankind is thought to have fixed its reſidence. Some have imagined, that they are a *Tartarian* race, who, breaking off from the main body of that numerous and widely extended people, directed their march towards the SE. There, falling in with a delightful and fertile plains, they found themſelves ſo well accommodated, that they dropped the deſire of changing their habitations. The empire of China is, indeed, ſo environed with mountains, deſerts, and ſeas, that it would have been difficult to have emigrated. Secluded from the reſt of mankind, the Chineſe were left to the ſtrength of their own inventive powers to fabricate their language, as well as the other arts, neceſſary for the ſupport and convenience of life.

Their ſtock of vocables, when they emigrated from Tartary, was neither ample nor accommodated to anſwer the purpoſes of the mutual conveyance of ideas. With this ſlender ſtock, however, they ſeem to have been ſatisfied. Inſtead of framing a new race of terms by compounding their primitive ones; inſtead of diverſifying them by inflections, or multiplying them by derivatives, as is done in every other language; they rather choſe to retain their primitive words, and by a variety of modifications, introduced upon their orthography or pronunciation, to accommodate them to a variety of ſignifications.

"The Chineſe language muſt then have been a Tartarian dialect. The Chineſe have not hitherto found out the art of compoſition of words. This is the more ſurpriſing, that, in the characters which form their written language, they employ many compoſitions. The character by which they repreſent *misfortune*, is compoſed of one hieroglyphic which repreſents a *houſe*, and another which denotes *fire*; becauſe the greateſt misfortune that can befal a man is to have his houſe on fire. With reſpect to the language which they uſe in ſpeech, though they often employ many words to expreſs one thing, yet they never run them together into one word, making certain changes upon them that they may incorporate the more conveniently, but always preſerve them entire and unaltered.

"The whole number of words in the Chineſe language does not exceed 1200: the nouns are but 326. It is ſurpriſing, that a people whoſe manners are poliſhed and refined, ſhould be able to expreſs ſo many things as muſt attend ſuch a courſe of life, by ſo ſmall a number of words, and thoſe too monoſyllables. The difficulties which attend this ſingular mode muſt be felt almoſt every inſtant. Du Halde ſays, that the Chineſe have two different dialects: the one vulgar, which is ſpoken by the vulgar, and varies according to the different provinces; the other is called the *Mandarin language*, and is current only among the learned. The latter is properly that which was formerly ſpoken at court in the province of *Kiang-nan*, and gradually ſpread among the polite people in the other provinces. It is ſpoken with more elegance in the provinces adjoining to *Kiang-nan* than in any other part of the kingdom. By degrees it was introduced into all parts of the empire, and became the univerſal language.

"We are therefore of opinion, that the modern language of the Chineſe was deduced from the original Mandarin or court dialect, and that this laſt was an artificial ſpeech fabricated by that people. The learned have long held it up as the primary dialect, becauſe, ſay they, it bears all the ſignatures of an original unimproved language. In our opinion, nothing appears more *ingeniouſly artificial*. It is univerſally allowed that, in its ſtructure, arrangement, idioms, and phraſeology, it reſembles no other language. Is not every learned man now convinced, that all the Aſiatic languages yet known diſcover unequivocal ſymptoms of their cognation and family reſemblance? The Ethiopians, Chaldeans, Arabians, Perſians, Egyptians, Hebrews, Phœnicians, the Brahmans, Bengaleſe, the Hindoos bordering upon China, all ſpeak only different dialects of one language, varying from the original in dialect only, ſome in a greater ſome in a leſſer degree: why ſhould the Chineſe alone ſtand altogether inſulated and unallied? Our readers will agree with us, that had the language of the Chineſe been the original language, a reſemblance muſt have ſtill exiſted between it and its deſcendants. If it had originated from any other language, it would have retained ſome characteriſtic features of its parent archetype.

"The Chineſe have an immemorial tradition, that their language was framed by YAO, their firſt emperor, to whom they attribute the invention of every thing curious, uſeful, and ornamental. Traditional

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ditional history, when it is ancient, uniform, and universal, is generally well founded: we think this tradition may be fairly admitted as a collateral evidence.

"The paucity of vocables contained in this singular language, we think another presumption of its artificial contexture. The Chinese *Onomathetæ*," (imposers of names,) "would find it an arduous task to devise a great number of new terms, and would therefore rest satisfied with the smallest number possible. In other languages we find the like economy was observed. Rather than fabricate new words, men adapted old words to new, sometimes even to contrary significations. They also contrived to join several old ones into one; whence arose a numerous race of compounds. Derivatives too are fabricated for the same purpose. Instead of creating new vocables, old ones were compounded, diversified, deflected, ramified, metamorphosed, and tortured into a thousand different shapes.

"There are three different methods to enrich and extend the range of a language. 1st, By fabricating a multitude of words; the plan which has been pursued by the Arabs. 2d, By framing a multitude of compounds and derivatives, as in the Greek and the Shanscrit. 3d, By varying the signification of words without enlarging their number; as practised by the Chinese and their colonists. The Arabians have shewn the most fertile and inventive genius, since they have enriched their language by actually creating a new and numerous race of words. The fabricators of the Shanscrit and the collectors of the Greek have exhibited art, but *comparatively* little fertility of genius."

"The Chinese (if we may believe their panegyrists,) perform all the offices of the most perfect language, by a few monosyllabic notes, simple, inflexible, and invariable, merely "by a *particular modification* of the *sound*." Dr Doig celebrates them for this method, as much more *ingeniously artificial*, than that adopted by all other nations. We cannot help differing from our learned author, and can see nothing ingenious in the whole Chinese system. The sole object of language is to communicate ideas with ease and perspicuity. How far the Chinese language is qualified for this purpose, let Dr Doig's own words declare. "Though the number of words, (says he,) in the Chinese language does not amount to above 1200, yet without multiplying words, the sense is varied almost *in infinitum*, by the variety of the accents, inflections, tones, aspirations, and the other changes of the voice and pronunciation; *circumstances*, which make those who do not *thoroughly understand* the language, *frequently mistake one word for another*." After this concession from its panegyrist, we need make no comment on the *perspicuity* of the Chinese language. The examples, however, given by the learned doctor of its ambiguity, but which he gives as examples of its *copiousness*, are worth quoting:

"The word *teov* pronounced slowly, drawing out the *v* and raising the voice, signifies a *lord* or *master*. If it is pronounced with an even tone, lengthening the *v*, it signifies a *hog*. When it is pronounced quick and lightly, it imports a *kitchen*. If it be pronounced in a strong and masculine tone, growing weaker towards the end, it signifies a *column*. By the same economy, the syllable *po*, according to the various accents, and the different modes of pronunciation, has eleven different significations. It signifies *glass, to boil, to winnow rice, wife or liberal, to prepare, an old woman, to break or cleave, inclined, a very little to water, a slave or captive.*

"Again, the same word joined to various others, imports a great many different things; for example *mou*, when alone, signifies a *tree*, coal, but when joined with another word, it has many other significations. *Mou leoo*, imports "wood prepared for building;" *mou lan*, is "barred wooden grates;" *mou hia*, "a box;" *mou kouy*, "a chest of drawers;" *mou tsiang*, "a cupboard;" *mou eul*, a mushroom;" *mou nu*, "a small orange;" *mou sing*, "the planet Jupiter;" *mou mien*, "cotton," &c. This word may be joined to several others, and has as many different significations as it has different combinations. Such is the *copiousness* and *perspicuity* of the language of the CHINESE; a people who have been so highly celebrated by the French philosophers of the present age, and whose pretended claims to *antiquity* have been set up in opposition to the chronology of the Scriptures; although founded on no better authority, than that of the legendary history, partly destroyed, and but ill preserved in their absurd language, through the medium of their perplexed unintelligible *hieroglyphics*. We were the more surprised to find Dr DOIG disposed to celebrate the learning and artificial language of this people, that he differs from the whole of the rest of his treatise on philology, above quoted, to be a steady advocate for the authenticity and truth of the Scriptures of the Old Testament. Indeed the Chinese language bears decisive marks of its being artificial; for like all the works of art, it falls infinitely short of nature.

SECT VIII. *Of the* GREEK LANGUAGE.

"THE Greeks, (says Dr DOIG,) according to the most authentic accounts, were descended of Javan or Jon, the 4th son of Japhet, the eldest son of the patriarch Noah. The Scriptures of old, and all the orientals to this day, call the Greeks *Javanim*, or *Juanam*, or *Juvanoth*. At what period the colonists arrived in these parts cannot be certainly determined; nor is it of great importance. That they carried along with them into their new settlements the language of Noah and his family is, we think, a point that cannot be controverted. We have endeavoured to prove that the Hebrew or at least one or other of its sister dialects was the primæval language of mankind. The Hebrew, then, or one of its cognate branches was the original dialect of the Javim or Greeks.

"Be that as it may, before these people make their appearance in profane history, their language deviates very widely from this original archetype. By what means, at what period, and in what length of time this change was introduced, is not easy to be elucidated. That it was progressive is certain.

"The colonies, which traversed a large tract of country

country before they arrived at their deſtined ſettlements, muſt have ſtruggled with numberleſs difficulties in the courſe of their peregrinations. The earth, during the periods which immediately ſucceeded the univerſal deluge, muſt have been covered with foreſts, interſected with ſwamps, lakes, rivers, and numberleſs other impediments. As the neceſſaries, and a few of the conveniences of life, will always engroſs the firſt cares of mankind, the procuring of theſe comforts will exclude all concern about arts and ſciences which are unconnected with theſe purſuits. Hence all of thoſe colonies, which migrated to a very great diſtance from the plains of Shinar, neglected the practice of the polite modes of civilization which their anceſtors were acquainted with, and had reſided before their migration. Certain it is, that thoſe nations which continued to reſide in the neighbourhood of that centre of civilization, always appear in a cultivated ſtate; while the colonies who removed to a conſiderable diſtance ſunk into barbariſm, at a period more early than the annals of profane hiſtory can reach. This appears to have been the ſituation of the primary inhabitants of Greece. Their own hiſtorians exhibit a very unpromiſing picture of their earlieſt ancitors. Diodorus Siculus, in delineating the character of the original men, ſketched his draught from the firſt inhabitants of Greece. He repreſents them as abſolute ſavages, going out in ſmall parties to make war upon the wild beaſts of the field, which kept them in continual alarm. Neceſſity obliged them to band together for the mutual ſecurity; they had not ſagacity enough to diſtinguiſh between the wholeſome and poiſonous vegetables; nor had they ſkill enough to lay up and preſerve the fruits of autumn for their ſubſiſtence during the winter." The ſcholiaſt on Pindar, deſcribing the inhabitants of Peloponneſus, ſays, that the nymphs, called *Meliſſæ*, inſtructed upon men to relinquiſh the abominable practice of *eating raw fleſh* torn from living animals, and perſuaded them to uſe fruits for food. He adds, that "in Peloponneſus, they honoured the nymphs, becauſe they firſt pointed out the method of living on the fruits of the earth, and put an end to the barbarous practice of feeding on raw *fleſh*. The ſame ladies too invented garments made of the bark of trees." Hecatæus the Abderite, Strabo, Pliny, Herodotus, and other ancient authors give ſimilar accounts of the ſavage ſtate of ancient Greece. "But what clearly demonſtrates the unpoliſhed character of the ancient Greeks is, the extravagant honours laviſhed by them upon the inventors of uſeful and ingenious arts. Moſt of theſe were advanced to divine honours, and became the objects of religious worſhip to ſucceeding generations. (See MYSTERIES and MYTHOLOGY.) To theſe teſtimonies of the ſavagiſm of the original Greeks, others almoſt without number might be added. While they were in this ſituation, a new colony arrived in thoſe parts, which in a few years conſiderably changed the face of affairs. The people who compoſed this colony were called PELASGI: concerning whoſe origin, country, character, and adventures, much has been written, and many different opinions exhibited by the learned. The general opinion is that they were natives either of Egypt or Phœnicia."

An anonymous author quoted by Dr Doig, has proved by very plauſible arguments, that theſe people could not be deſcendants of the Egyptians nor Phœnicians. He maintains, that the Pelaſgi were a great and numerous tribe; that they overſpread all the coaſt of Aſia Minor from Mount Mycale to Troas; that they were maſters at one time of all the Aſiatic and Grecian iſlands; that they over-ran Greece and many of the neighbouring countries; and all this in leſs than half a century. Theſe facts he proves from Homer, Diodorus Siculus, Pauſanias, and other Greek authors of approved authenticity. He ſhows, that they were a civilized generation; that they were well acquainted with military affairs, legiſlation, agriculture, navigation, architecture, letters, &c. He inſiſts that Phœnicia could not at any given period have furniſhed ſuch a numerous body of emigrants. He believes that this event took place before the invaſion of Canaan by the Iſraelites; that conſequently the Pelaſgic migration was not occaſioned by that cataſtrophe. He has ſhown, that the Egyptians in the earlieſt ages were averſe to foreign expeditions, eſpecially by ſea. He finds, that the Egyptian and Phœnician colonies, which afterwards ſettled in Greece, were enemies to the Pelaſgi, and either ſubdued or expelled them. He concludes, that theſe people were the progeny of the Arabian ſhepherds, who, at a very early period ſubdued all Egypt. (See EGYPT, § 8.) After poſſeſſing that country about two centuries and a half, they were conquered by Amenophis, who drove them out of the country. Upon this the fugitives retired to Paleſtine, where Manetho the Egyptian hiſtorian loſes ſight of them, and confounds them with the Iſraelites. This writer ſuppoſes that thoſe fugitives gradually directed their courſe for the W. and NW. coaſts of Aſia Minor, whence they conveyed themſelves over to Greece.

Such are the arguments by which this author ſupports his hypotheſis. It is new, and appears by no means improbable. Our readers may conſult Gebelin's Preliminary Diſcourſe to his Greek Dictionary, Lord Monboddo's Origin and Progreſs of Language, vol. i. and Bryant's Ancient Mythology.

But "nothing is more certain, than that the Pelaſgi were the firſt people who civilized the ſavages of ancient Greece. Whether we ſuppoſe the Pelaſgi to have been the offſpring of the Phœnicians, Egyptians, or Arabian ſhepherds, it will make little difference as to their language; every man of learning is convinced that thoſe three nations, eſpecially at that early period, ſpoke a dialect of the Hebrew. The Pelaſgi, then, muſt have ſpoken a dialect of that language when they arrived in Greece. Perhaps it might have undergone ſeveral changes, and acquired ſome new modifications, during ſo many years as had paſſed ſince they began to be a ſeparate nation, and in the courſe of ſo many peregrinations. Some monuments of theirs ſtill extant prove this fact beyond all contradiction. As theſe people incorporated

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with the aborigines of Greece, the remains of the original language of mankind, or at leaſt ſo much of it as had been retained by them, gradually coaleſced with that of the new ſettlers. From this it is obvious, that prior to the arrival of the new coloniſts from the Eaſt, the language now current among the two united tribes muſt have been a dialect of the Phœnician, Arabian, Hebrew, &c. Herodotus affirms, that the Pelaſgi in his time ſpoke a barbarous language, quite unintelligible to the modern Greeks. The reaſon of this difference between the language of the Heilenes or Greeks in the age of Herodotus, and that of the remains of the Pelaſgi at that period, ſeems to be this: Prior to his time, the Greek language had undergone many changes and received vaſt improvements; whereas that of the remnant of the Pelaſgi, who were now reduced to a low ſtate, had remained ſtationary, and was then in the ſame predicament in which it had been a century after their arrival in the country.

"As the Pelaſgi were a people highly civilized and well inſtructed in the various arts then known in the eaſtern world, and were ſkilled in agriculture, architecture, muſic, &c. the preſumption is that they could not be unacquainted with alphabetical writing. This moſt uſeful art was well known in the countries from which they emigrated; and of courſe it is impoſſible to imagine, that they did not export this art as well as the others. Diodorus Siculus pretends, that the Pelaſgi received alphabetical letters from Cadmus and his Phœnician followers; that thoſe letters were afterwards called *Pelaſgic*, becauſe the Pelaſgi were the firſt people of Greece who adopted them. This muſt go to the ſcore of national vanity, ſince very ſoon after he acknowledges that Linus wrote the exploits of the firſt Bacchus and ſeveral other romantic fables in Pelaſgic characters; and that Orpheus, and Pronapides the maſter of Homer, uſed the ſame kind of letters. Zenobius likewiſe informs us, that Cadmus ſlew Linus for teaching characters differing from his. Theſe letters could be none other than the Pelaſgic.

"Pausanias, in his Attics, relates, that he himſelf ſaw an inſcription upon the tomb of Corœbus, who lived at the time when Crotopus, who was contemporary with Deucalion, was king of the Argives. This inſcription then was prior to the arrival of Cadmus; and conſequently letters were known in Greece before they were introduced by this chief. It likewiſe appears from Herodotus himſelf, that the Ionians were in poſſeſſion of alphabetical characters before the coming of the Phœnicians. "For (ſays he) the Ionians having received letters from the Phœnicians, changing the figure and ſound of ſome of them, ranged them with their own, and in this manner continued to uſe them afterwards." If, then, the Ionians ranged the Phœnician characters with their own, it is obvious that they had alphabetical characters of their own.

"Monuments bearing inſcriptions in the ſame letters have alſo been diſcovered in ſeveral parts of Greece and Italy, which place this point beyond the reach of controverſy. As the Pelaſgi emigrated from Arabia, the preſumption is that their letters were Phœnician. They are ſaid by Dr Swinton to have been 15 in number, whereas the Phœnician alphabet conſiſts of 16. The three additional letters were probably invented by the latter people after the Pelaſgi had left the eaſtern quarters. Beſides, the Phœnician characters had not as yet received names; and accordingly the Romans, who derived their letters from the Arcadian Pelaſgi, had no names for theirs. They were of courſe no other than the original letters of the Phœnicians in their firſt uncouth and irregular form: and for this reaſon they eaſily gave way to the Cadmean, which were more beautiful, more regular, and better adapted to expedition.

"Hitherto we have ſeen the Pelaſgi and the Phœnim incorporated, living under the ſame laws, ſpeaking the ſame language, and uſing the ſame letters. But another nation, and one too of great extent and populouſneſs, had at an early period taken poſſeſſion of a conſiderable part of the country afterwards diſtinguiſhed by the name of *Hellas* or *Greece*. The Thracians were a great and martial ty nation; inferior to none except the Indians, ſays Herodotus. Theſe people, at a very early period, had extended their quarters over all the northern parts of that country. They were, in ancient times, a learned and poliſhed nation. From them, in ſucceeding ages, the Greeks learned many uſeful and ornamental ſciences. Orpheus the muſician, the legiſlator, the poet, the philoſopher, and the divine, is known to have been of Thracian extraction. Thamyris and Linus were his diſciples, and highly reſpected among the Greeks for their learning and ingenuity. That theſe people ſpoke the ſame language with the Greeks, is abundantly evident from the connection between them and theſe Thracian bards. The Thracian language, then, whatever it was, contributed a great proportion toward forming that of the Greeks. From the remains of the Thracian dialect there appears to have been a very ſtrong reſemblance between it and the Chaldean. This poſition we could ſupport by the moſt plauſible philological deduction, did our limits admit. It appears that the Thracians, Getæ, and Daci or Dacivi, ſpoke nearly the ſame language. The Getæ, ſo much celebrated in the annals of the lower empire, were the deſcendants of the Getæ and Daci, and conſequently retained the dialect of their anceſtors.

"We have now found out three branches of the Greek language; that of the Ionim or *Aborigines*, that of the Pelaſgic tribe, and that of the Thracians. Theſe three were only different dialects of the very ſame original tongue. Some centuries after the arrival of the Pelaſgi, Cadmus, an Egyptian and a ſojourner in Phœnicia, arrived in Boeotia with a multitude of followers. This chief and his countrymen introduced letters and ſeveral other uſeful improvements into the country. As the people were natives of Phœnicia, their alphabet was that of their native country, conſiſting of 16 letters. That the Phœnician alphabet was near the ſame with the Samaritan and Hebrew, has been ſo often and ſo clearly demonſtrated by the learned of the two laſt centuries, that it would be ſuperfluous to inſiſt upon it. The Phœnicians wrote from right to left, and the old Grecian characters inverted exactly reſemble the other.

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"The names of the Cadmean characters are Syrian, which shows the near resemblance between that language and the Phœnician. They stand thus: *alpha*, *betha*, *gamla*, *delta*, &c. The Syrians used to add *a* to the Hebrew vocables; hence aleph becomes *alpha*, beth, *betha* or *beta*, &c. In the Cadmean alphabet we find the vowel letters, which is an infallible proof that this was the practice of the Phœnicians in the age of Cadmus; and this furnishes a presumption that the Jews did the same at the same period.

"It is evident that the oldest Greek letters, which are written from right to left, differ very little from those of the Pelagi. The four double letters ϕ, θ, ξ, χ, are said to have been added by Palamedes about 20 years before the war of Troy. Simonides is generally supposed to have added the letters ζ, η, ψ, though it appears by some ancient inscriptions that some of these letters were used before the days of Palamedes and Simonides. In the year 1456 seven brazen tables were discovered at Engubium, a city of Umbria in the Apennines, of which five were written in Pelasgic or Etruscan characters and two in Latin. The first of these tables is thought to have been composed about 168 years after the taking of Troy, or 1206 years before Christ. By comparing the inscription on these tables with the old Ionic characters, the curious have been enabled to discover the resemblance.

"The old Ionic characters, written from right to left continued in general use for several centuries: It was composed of the Cadmean and Pelasgic characters, with some variations of form, position, and sound. The Athenians continued to use this character till the year of Rome 350. The new Ionic was gradually improved into the new, and this quickly became the reigning mode. After the old Ionic was laid aside the (Βουστροφηδὸν) Boustrophedon came into custom, which goes backwards and forwards as the ox does with the plough." See BOUSTROPHEDON. "The words were all placed close together, and few small letters were used before the 4th century. If our curious readers would wish to know more of letters and alphabets, we must remit them to Chishul, Morin, Postellus, the great Montfaucon, Gebelin, Astle, &c. Having now, sufficiently proved that the Greek alphabet was derived from the Phœnician, in order to convince our illiterate readers of the certainty of our position, we shall annex a scheme of both alphabets, to which we shall subjoin some strictures upon such letters of the Greek alphabet as admit any ambiguity in their nature and application.

"Α, *alpha*, had two sounds, the one broad like *a* in the English word *all*; the other slender, as *e* in *end*, *spend*, *defend*. The Hebrews certainly used it so, because they had no other letter to express that sound; the Arabs call the first letter of their alphabet *elipò*; and they as well as the Phœnicians employ that letter to express both the sound of A and E promiscuously. The Greeks call their 5th letter εψιλον, that is, E slender, which seems to have been introduced to supply the place of A slender.

"Η, *eta*, was originally the mark of the *spiritus asper*, and no doubt answered to the Hebrew ה. It is still retained in that capacity in the word Ηπαρ, and in words with the *spiritus asper* beginning books, chapters, sections, &c. E originally marked both the sound of Εψιλον and Ηπα; that is, it was sometimes sounded short as at present, and sometimes long, where it is now supplied by Η. As it was found convenient to distinguish these two different quantities of sound by different letters, they adopted Η, the former *spiritus asper*, to denote the long sound of E, and substituted the present *spiritus asper* ['] in its place.

"Ι, *iota*, is the Hebrew or Phœnician *jod* or *yod*. We imagine it originally served the purpose of both iota and ypsilon. It had two different sounds; the one broad and full, the other weak and slender. The latter had the sound of the modern υψιλον. That this was actually the case, appears in several monumental inscriptions: And upon this depends the variation of some cases of the demonstrative pronoun and of the second declension.

"Ο, *omicron* or small *o*, in the original Greek, had three different sounds. It sounded *o* short, as at present; and likewise *o* long, now denoted by Ω or large *O*. It likewise marked the sound of the improper diphthong ου, sounded like the English diphthong *oo*. The Ω was taken from the Phœnician vau or *V*.

"Υ, *ypsilon* was adopted to supply a mark for the sound of I slender.

"Ζ, *zeta*, is compounded of δς. Dion. Halic. however, informs us that this letter should be pronounced σδ, according to the Doric plan.

"Θ, *theta*, was not known in the old Greek. It is compounded of τ and the *spiritus asper*, both which were of old written separately thus TH.

"Ξ, *xi*, is compounded of γς, κς, χς. These letters, too, were originally written separately.

"Φ, *phi*. This letter is compounded of β, or π, and the *spiritus asper*; thus ΒΗ, ΠΗ.

"Χ, *chi*, like the foregoing, is compounded of γ, or κ, and the *spiritus asper* as above.

"Ψ, *psi*, like some of the rest, is made up of βς, or πς, which, too, were originally written in separate characters.

"Every language, we believe, was originally composed of inflexible words. One of the first attempts towards forming the variations, now denominated *declensions* and *conjugations*, would probably be made upon the *demonstrative* article and the *substantive* verb. In the Greek tongue, this was evidently the method.

"The original Greek *article* was imported from the east. It was the Hebrew or Phœnician ה *ha*. This particle sometimes signifies *one*, and sometimes it answers to our demonstrative *the*; both in its adverbial and demonstrative capacity it imports demonstration. In the earliest stages of the two oriental languages, it was probably written apart, as *ha melech* "the king." In process of time it came to be joined with the following word, as *Hammelech*. From this we think the Greek article was deduced. It is still retained in the Doric dialect in its pristine character. The difference between *ho* and *ha* in the eastern language is nothing. Here then we have the articles *ὁ* masculine and *ἡ* feminine. Upon these several changes were superinduced, to render them more useful for the purposes of language."

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After this our learned author displays his perfect knowledge of the Greek language, by enlarging upon the different parts of speech, upon which he makes a number of judicious observations; but which our room permits us not to quote; nor do we think it would be of great importance, to any reader, but a student of the Greek language, who certainly would not trust his success in such a study to any thing, that he could expect to find under PHILOLOGY, in a work like ours. We shall therefore content ourselves with quoting only a few more of the learned Doctor's general remarks, which we think will be interesting to readers of all classes.

"We have already demonstrated (says he) that the *Ionim* or Aborigines of Greece were a race of barbarians; that their language or rather jargon was of the same contexture. The Pelasgi found both the people and their speech in this uncultivated state. These people arrived in Greece about the year before Christ 1760. It was then that the language of Greece began to be cultivated. Before the age of Homer the work seems to have been completed. Nothing of consequence was afterwards added to the original stock. Homer was born *an. ante Chr.* 1041; consequently the cultivation of the Greek tongue was completed in about 700 years. But if Orpheus, Linus, Tamyris, &c. wrote long before Homer, as they certainly did, that language was arrived nigh the standard of perfection 200 years before; by which computation the period of its progress towards its stationary point is reduced to 500 years. But as the Pelasgi were a colony of foreigners, we ought to allow them one century to incorporate with the natives, and to communicate their language, laws, manners, and habits, to the aborigines. By this deduction we reduce the term of cultivation to less than four centuries.

"During this period Greece was furiously agitated by internal wars. That country was divided into a number of independent states, which were perpetually engaged in quarrels. The profession of arms was necessary for the preservation of the state; and the man of prowess was honoured as a demigod. The Greek tongue was then rough and unpolished; because, like the ancient Romans, the bravest men were more disposed to *act* than to *speak*.

"There has appeared among barbarous or half-civilized people a description of men whose profession it has been to frequent the houses or palaces of the great, to celebrate their achievements, or those of their ancestors, in the sublimest strains of heroic poetry. Accordingly we find, that the Germans had their *bards*, the Gauls their *fads*, the Scandinavians their *scalds* or *scälders*, the Irish their *fileas*, all retained for that very purpose. They lived with their chieftains; attended them to battle; were witnesses of their heroic deeds; animated them with martial strains; and celebrated their prowess if they proved victorious; or, if they fell, raised the song of woe, and chanted the mournful dirge over their sepulchres." See BARDS, MINSTRELS, &c.

"Among the ancient Greeks there was a numerous tribe of men of the same description, who were at once poets and musicians, and whose office it was to celebrate the praises of the great, and to transmit their exploits to posterity in the most exaggerated encomiums. These poetical vagrants were styled Ἀοιδοὶ or songsters. Some of these lived in the houses of great men; while others, less skilful or less fortunate, strolled about the country in the manner above described. The more illustrious of those Ἀοιδοὶ who were retained in the temples of the gods, were the first improvers of the language of the Greeks. Among the Hebrews the first poetical compositions were hymns in honour of Jehovah." (See Exod. xv. Judges v. &c.) "In Greece, when all was confusion and devastation, the temples of the gods were held inviolable. There the Ἀοιδοὶ improved their talents, and formed religious anthems on those models which their progenitors had chanted in the east.

"The language of the Greeks was yet rugged and unmellowed: their first care was to render it more soft and flexible. They enriched it with vocables suited to the offices of religion. Homer every where mentions a distinction between the language of gods and men. The priests concurred in promoting this important purpose. From this source the strolling Ἀοιδοὶ drew the rudiments of their art; and from the vulgar deduced the elements of a polished style. From these Ἀοιδοὶ of superior order, the Greek tongue acquired that variety and flexibility, from which it has derived that ease, beauty, and versatility, by which it surpasses most other languages.

"Few colonies have emigrated from any civilized country without a detachment of priests in their train. The supreme powers have always been worshipped with music and dancing. The Hebrews, Phœnicians, and Egyptians, delighted in these musical and jocund festivals. The priests who attended the Iones, Dores, Æolians, Phrygians, Athenians, &c. from the east, introduced into Greece that exquisite taste, those delicate musical feelings, which distinguished the Greeks from all the neighbouring nations. Hence that numerous race of *onomatopaias*, by which the Greek language is invested with the power of expressing almost every passion of the human soul, in such terms as oblige it to feel and actually to assimulate to the passion it would excite. (See ONOMATOPOEIA.) Numberless instances of this occur in every page of Homer, Hesiod, Pindar, Sophocles, Euripides, and even of Aristophanes: to quote instances would be to insult the Greek student."

Here, after giving a short history of Greek poetry, Dr Doig enumerates the most eminent of those Greek poets, who successively brought the art and the language to perfection, particularly Orpheus, Linus, Musæus, Melampus, Olen, Hesiod, and Homer.

"The Grecian poets (says our author,) enjoyed another advantage which that class of writers have seldom possessed, which arose from the different DIALECTS into which their language was divided. All those dialects were adopted indifferently by the prince of poets; a circumstance which enabled him to take advantage of any word from any dialect, that suited his purpose. This rendered versification easy, and diffused an agreeable variety over his composition. He even commodi-

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commodated words from Macedonia, Epirus, and rcum, to the purpoſes of his verſification: ſides, the laws of quantity were not then clear- aſcertained. Succeeding poets did not enjoy heſe advantages, and conſequently have been more ircumſcribed both in their diction and numbers.

"The Greek language was divided into many ifferent dialects. Every petty canton had ſome eculiar forms of ſpeech which diſtinguiſhed it om the others. There were, however, 4 dia- ical variations which prevailed over all the o- . Theſe were the *Attic*, *Ionic*, *Æolic*, and *Do- .* Theſe four dialectical diſtinctions originated the different countries in the eaſt, from which ribes reſpectively emigrated. The Attics ſprung, 1ſt, of the barbarous aborigines; 2d, adventitious colony of Egyptian Saites: 3d, branch of Ionians from the coaſt of Paleſtine. laſt formed the old Ionian dialect, from ſprung the Attic and modern Ionic. The ians emigrated from a different quarter of the coaſt; the inhabitants of which were a rem- of the old Canaanites, and conſequently dif- m dialect from the two firſt. The Dores from an unpoliſhed race of purple-fiſhers ſame coaſt, and ſpoke a dialect more ruſ- than any of the reſt. Theſe four nations emi- from different regions; a circumſtance in our opinion, laid the foundation of the t dialects by which they were afterwards uiſhed.

this ſhort ſketch we cannot exhibit an ex- of the diſtinguiſhing features of each dia- Such an analyſis would carry us far beyond its. For ſatisfaction on this head, we re- Grecian ſtudent to Mattaire's *Græcæ Lin- ialect;* and ſhall only add a few obſervations. e Athenians being an active, briſk, volatile delighted in contractions. This ſtyle was xquiſitely poliſhed. The moſt celebrated who wrote in that dialect were Plato, ydes, Xenophon, Demoſthenes, and the ators; Æſchylus, Euripides, Sophocles, anes, Menander, Diphilus, with the o- ic and tragic poets. That dialect was cient or modern. The ancient Attic was with the Ionic.

e Ionic was the ancient Attic; but when ion emigrated from Attica and ſettled on aſt of Aſia Minor, they mingled with the and Pelaſgi, and of courſe adopted a er of their vocables. They were an indo- luxurious, and diſſolute people; of courſe yle was eaſy and flowing, but verboſe, re- t, and without nerves. This, however, leading ſtyle in Homer; and after him a ous number of writers on every ſubject ued the ſame dialect, ſuch as Herodotus the ated hiſtorian; Cteſias the hiſtorian of Per- ladia; Hecatæus of Miletus, Megaſthenes erian, who lived under Seleucus Nicator; crates the celebrated phyſician; Hellanicus ſtorian, mentioned with honour by Polybi- Anacreon of Teia; Alcæus, Sappho of Leſ- Pherecydes Syrus the philoſopher, and many n of the ſame profeſſion.

The Æolic and Doric were originally cog- dialects. When the Dorians invaded Pelo- ponneſus and ſettled in that peninſula, they in- corporated with the Æolians, and their two dia- lects blended into one produced the new Doric. The original Dores inhabited a rugged mountain- ous region about Oſſa and Pindus, and ſpoke a rough unpoliſhed language ſimilar to the ſoil which they inhabited. Andrew Schottus, in his obſer- vations on poetry, l. 2. cap. 50. proves from an old M. S. of "Theocritus, that there were two dialects of the Doric tongue, the one ancient and the other modern: that this poet employed Ionic and the modern Doric; that the old Doric dia- lect was rough and cumbrous; but that Theocri- tus adopted the new as being more ſoft and mel- low." A prodigious number of poets and philo- ſophers wrote in this dialect, ſuch as Epicharmus the poet; Ibycus the poet of Rhegium; Corinna the poeteſs of Thebes; Erynna a poeteſs of Leſ- bos; Moſchus the poet of Syracuſe; Sappho the poeteſs of Mitylene; Pindar the prince of lyric poets; Archimedes the renowned mathematician; and almoſt all the Pythagorean philoſophers. Few hiſtorians wrote in that dialect; or if they did, their works have not fallen into our hands. Moſt of the hymns ſung in the temples of the gods were compoſed in Doric.

"After the Greek tongue was thoroughly po- liſhed, conſcious of the ſuperior excellency of their own language, the Greeks, in the pride of their hearts, ſtigmatized every nation which did not uſe their language with the contemptuous ti- tle of *barbarians*. Such was the delicacy of their pampered ears, that they could not endure the untutored voice of the people whom they called Βαρβαροφωνοι. This extreme delicacy produced 3 very pernicious effects; 1ſt, it induced them to metamorphoſe and mangle foreign names, to reduce their ſound to the Grecian ſtandard: 2dly, it prevented their learning the languages of the eaſt, the knowledge of which would have opened to them an avenue to the records, annals, anti- quities, laws, cuſtoms, &c. of the people of thoſe countries, in compariſon of whom the Greeks themſelves were of yeſterday, and knew nothing. By this unlucky bias, not only they, but even we, who derive all the little knowledge of antiquity we poſſeſs through the channel of their writings, have ſuffered an irreparable injury. By their transformation of oriental names, they have in a manner ſtopped the channel of communication between the hiſtories of Europe and Aſia. This appears evident from Herodotus, Xenophon, Cteſias, and all the other Grecian writers who mention the intercourſe between the Greeks and Perſians. 3diy, It deprived them of all knowledge of the etymology of their own lan- guage. Plato in his *Cratylus* endeavours to in- veſtigate the etymology of only a few Greek words. His deductions are childiſh, and little ſuperior to the random conjectures of a ſchool- boy. Varro, the moſt learned of all the Romans, has not been more ſucceſsful. Both ſtumbled on the very threſhold of that uſeful ſcience; and a ſcholar of very moderate proficiency in our days knows more of the origin of theſe two noble lan- guages, than the greateſt adepts among the natives did in theirs.

"Theſe imperfections, however, are counter- balanced

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balanced by numberleſs excellencies: and we are certainly much more indebted to that incomparable people for the information they have tranſmitted to us through the medium of their writings, than injured by them in not conveying to us and to themſelves more authentic and more ample communications of ancient events." But we need not make encomiums on a language which has long been extolled, perhaps to an extravagant degree, by the labours of men of the moſt enlarged capacity and the moſt refined taſte. Dr Doig concludes with ſome learned remarks on the *ſpirits*, or *aſpirates*, and *accents* of the Greek language; for which we muſt refer the Grecian ſtudent to his books and his teacher.

"The Greek ſtudent who intends to penetrate into the depths of this excellent language, ſhould alſo endeavour to be thoroughly acquainted with the books after mentioned, 1. Ariſtotle's Rhetoric and Poetics, his book *De Interpretatione*, eſpecially with Ammonius's Commentary. Ammonius was a native of Alexandria, and by far the moſt acute of all the ancient grammarians. 2. Dion. Halic. *De Structura Orationis*, where, amidſt abundance of curious and intereſting obſervations, will be found the true pronunciation of the Greek letters. 3. Demetrius Phalereus *De Elocutione*; a ſhort eſſay indeed, but replete with inſtruction concerning the proper arrangement of words and members in ſentences. 4. Longinus, the prince of critics, whoſe remains are above commendation. 5. Theodorus Gaza, and the other refugees from Conſtantinople, who found an hoſpitable reception from the munificent family of the Medici, and whoſe learned labours in their native language once more revived learning and good taſte in Europe. Theſe, with ſome other critics of leſs celebrity, but equal utility, will unlock all the treaſures of Grecian erudition, without however diſcloſing the ſource from which they flowed. To theſe we might add a few celebrated moderns, ſuch as Monſ. Fourmont the Elder, Monſ. Gebelin, Abbé Pezron, Salmaſius, and eſpecially the learned and induſtrious Lord Monboddo.

"We ſhall now give a very brief account of the vaſt extent of the Greek language even before the Macedonian empire was erected; at which period, indeed, it became in a manner univerſal, much more than ever the Latin language could accompliſh, notwithſtanding the vaſt extent of the Roman empire.

"GREECE, originally Hellas, was a region of ſmall extent, and yet ſent out many numerous colonies into different parts of the world. Theſe colonies carried their native language along with them, and induſtriouſly diffuſed it wherever they formed a ſettlement. The Iones, Æoles, and Dores, poſſeſſed themſelves of all the W. and NW. coaſt of the Leſſer Aſia and the adjacent iſlands; and thus even the barbarians learned that poliſhed language. The Greek colonies extended themſelves along the S. coaſt of the Euxine ſea, as far as Sinope, now Trebizond, and all the way from the W. coaſt of Aſia Minor: though many cities of barbarians lay between, the Greek tongue was underſtood and generally ſpoken by people of rank and faſhion.

"There were Greek cities on the N. coaſt of the Euxine ſea to the very eaſtern point, and perhaps beyond thoſe limits; likewiſe in the Taurica Cherſoneſus, or Crim Tartary; and even to the mouth of the Danube, the ſtraits of Caffa, &c. In the neighbourhood of all theſe colonies, the Greek language was carefully propagated among the barbarians, who carried on commerce with the Greeks.

"A great part of the ſouth of Italy was planted with Greek cities on both coaſts; ſo that the country was denominated *Magna Græcia*. Here the Greek tongue univerſally prevailed. In Sicily was in a manner vernacular. The Ionians ſent a colony into Egypt in the reign of Pſammetichus; and a Greek ſettlement had been formed in Cyrenia many ages before. The Phocians built Maſſilia, or *Marſeilles*, as early as the days of Cyrus the Great, where ſome remains of Greek language are ſtill to be diſcovered. Cæſar tells us, that in the camp of the Helvetii records were found in Greek letters. Perhaps no language ever had ſo extenſive a ſpread, where it was not propagated by the law of conqueſt.

"The Greek tongue, at this day, is confined within very narrow limits. It is ſpoken in Greece itſelf, except in Epirus, and the weſtern parts of Macedonia. It is likewiſe ſpoken in the Greek and Aſiatic iſlands in Candia or Crete, in ſome parts of the Coaſt of Aſia Minor, and in Cyprus; but in all theſe regions, it is much corrupted and degenerated.

"It is next to a miracle (ſays the Dr) that many monuments of Grecian literature are ſtill to be found among men. Notwithſtanding the burning of the famous library of Alexandria, and almoſt numberleſs wars, maſſacres, and devaſtations, which have from time to time in a manner deſolated thoſe countries where the Greek language once flouriſhed; we are told that there remain about 3000 books written in that language.

"We ſhall conclude this ſection with a detail of the moſt diſtinguiſhed ſtages and revolutions, through which this noble tongue made its progreſs, from the age of Homer to the taking of Conſtantinople, A. D. 1453; a period of more than 2000 years.

"HOMER gave the Greek poetry its conſiſtency, and enriched, as well as harmonized the language. The Iliad and Odyſſey have the air of extempore compoſitions; and the poet is never wanting to fill up a verſe; and a number of expreſſions are mechanically annexed to ſuch words as were of frequent recurrence. Hence that pioufneſs and waſte of words in the old Greek, which forms ſuch a contraſt to the condenſed laboured compoſition of Virgil.

"The Greek proſe was of a more difficult nature; and it may be diſtributed into different claſſes or degrees of purity. Of the proſe authors extant, the firſt and beſt ſtyle is that of HERODOTUS, and of PLATO in the florid or mixed ſtyle of Xenophon in the pure and ſimple, of Thucydides and Demoſthenes in the auſtere. None, perhaps, is ſo conducive to form a good taſte in compoſition as the ſtudy of all theſe writers.

"The ſtyle of POLYBIUS forms a new epoch in the hiſtory of the Greek language: it was the idiotic or popular manner of expreſſion, eſpecially

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mong military men, in his time, about the 150th lympiad. It became the model of ſucceeding riters, by introducing a ſimple unſtudied expreſ-on, and by emancipating them from the anxious bour of the old Greeks reſpecting the cadence d choice of words. The ſtyle of the New Teſ-ment, being plain and popular, frequently re-mbles that of Polybius, as has been ſhown by mphelius, and by Kirchmaier, *de parallelismo. N. t Polybii*, 1725.

* Before this hiſtorian, the Alexandrian Jews formed a new or Helleniſtic ſtyle, reſulting the expreſſion of oriental ideas and idioms in k words, after that language had loſt as much puriiy, as it gained in general uſe, by the con-s of Alexander. The Helleniſtic is the lan-e of the Septuagint, the Apocrypha, the New ament, and partly of Philo and Joſephus. mixture in the ſtyle of the evangeliſts and a-s, is one credential of the authenticity of the of all books, a book which could not have written but by Jewiſh authors in the firſt y. See the fine remarks of Biſhop Warbur-Doctrine of Grace, book. i. ch. 8—10. Cri-e their labour in attempting to adjuſt the ure Greek to the ſtandard of Atticiſm.

he diction of the Greek hiſtorians, and geo-ers of the Auguſtan age, is formed on that ybius; but improved and modernized, like the h of the preſent age, if compared with that rendon or Bacon. More perſpicuous than it was well ſuited to ſuch compilations as en written by men of letters, ſuch as Di-s, Diodorus, and Strabo, without much ex-ce or rank in public life.

he eccleſiaſtical ſtyle was cultivated in the an ſchools of Alexandria, Antioch, and Con-ople; rank and luxuriant, full of oriental , and formed in a great meaſure on the rint verſion. Such is, for inſtance, the Euſebius. After him, the beſt Chriſtian poliſhed their compoſitions in the ſchools oric under the later Sophiſts. Hence the and flowing purity of St Chryſoſtom, who e good ſenſe than Plato, and perhaps as ood words.

the Greek of the Byzantine empire, there d diſſertation by Du Cange, *de cauſis cor-Graecitatis*, perfixed to his Gloſſary, together rius's Grammar of the modern Greek. ff ſtage of the Greek language is a miſera-ture of Turkiſh barbariſm. And, which is rpriſing, there is no city of Greece where guage is more different from the ancient Athens. The reaſon of that is, becauſe it n long inhabited by a mixed multitude of nations.

o conclude, the Greeks have left the moſt monuments of human wiſdom, fortitude, cence, and ingenuity, in their improvement y art and ſcience, and in the fineſt writings very ſubject neceſſary, profitable, elegant, raining. The Greeks have furniſhed the ſt examples of every virtue and accompliſh-natural or acquired, political, moral, or mi-: they excelled in mathematics and philoſo-in all the forms of government, in architec-navigation, commerce, war: as orators, poets, and hiſtorians, they ſtand as yet unrivalled, and are like to ſtand ſo for ever; nor are they leſs to be admired for the exerciſes and amuſements they invented, and brought to perfection, in the inſtitution of their public games, their theatres, and ſports."

SECT. IX. *Of the* LATIN LANGUAGE.

"THIS language, (ſays our author,) like every other ſpoken by barbarians, was in its beginning rough and uncultivated.—What people the Romans were, is a point in which antiquarians are not agreed. In their own opinion they were ſprung from the Trojans; Dion. Halicar. derives them from the Greeks; and Plutarch informs us that ſome imagined they were ſprung from the Pelaſgi. The fact is, they were a mixture of people collected out of Latium and the adjacent parts, which a variety of accidents had drawn together, to eſtabliſh themſelves on that mountainous region, to ſecure their own property, and plunder that of their neighbours. They were compoſed of Arcadians, Sabines, Latins, Hetruſcans, Umbrians, Oſcans, Pelaſgi, &c.; and their language muſt have been a mixture of the different dialects of all theſe diſcordant tribes.

"The Latin language ought then to be a mingled maſs of the Arcadian, that is, the Æolian Greek, the Pelaſgic, Hetruſcan, and Celtic dialects. Theſe jarring elements, like the people to whom they belonged reſpectively, gradually incorporated, and produced what was afterwards called the *Latin* tongue.

"The Arcadians were a Pelaſgic tribe, and ſpoke a dialect of that ancient Greek, early produced by the coalition of this tribe with the ſavage Aborigines of Greece. This dialect was the ground-work of the Latin. The Æolian Greek, which was ſtrongly tinctured with the Pelaſgic, was the model upon which the Latin language was formed. From this deduction it appears, that the Latin tongue is much more ancient than the modern Greek; and that the Greek, as it ſtood before it was thoroughly poliſhed, bore a very near reſemblance to that language. Hence we may conclude, that the knowledge of the Latin language is neceſſary to underſtand the Greek.

"A very conſiderable part of the Latin tongue was derived from the Hetruſcan. That people were the maſters of the Romans in every thing ſacred. From them they learned the ceremonies of religion, the method of arranging public feſtivals, the art of divination, the interpretation of omens, the method of luſtrations, expiations, &c. It would be eaſy to prove, that the Pelaſgi and Hetruſci were the ſame race of people; and their languages muſt have differed in dialect only." See *Thucyd.* lib. iv.

"The Umbrian or Celtic enters deeply into the compoſition of the Latin tongue. For proof of this, we need only appeal to *Pelloutier, Bullet's Memoires de la Langue Celtique, partie I, Abbe Pezron's Origin of Ancient Nations*, &c. The Latin abounds with oriental words, eſpecially Hebrew, Chaldaic, and Perſian. Theſe are certainly remains of the Pelaſgic and Hetruſcan tongues, ſpoken originally by people who emigrated from region

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regions, where thoſe were parts of the vernacular language.—In this language, too, there are not a few Gothic terms. Pelloutier ſuppoſes, the Celtic and Gothic languages were originally the ſame. There are, beſides, in the Latin a great number of obſolete Greek words. The moſt effectual method to diſtinguiſh the difference between the early and modern Greek, would be to compare the ancient Latin with the latter; there being very little difference between the ancient Greek and Latin in the earlieſt periods. It is certain that the Roman letters were the ſame with the ancient Greek.—*Formæ literis Latinis quæ veterrimis Græcorum*, ſays Tacitus; and Pliny ſays the ſame, and for the truth of his aſſertion appeals to a monument extant in his own times. Theſe old Greek letters were no other than the Pelaſgic, which we have ſhown from Diod. Sic. to have been prior to the Cadmean. For the figure of theſe letters, ſee Aſtle, Poſtellus, Montfaucon, Palæographia Græca, M. Gebelin, and our *Plate* II. Vol. I.

"That the Latins borrowed the plan of their declenſions from the Greeks, is evident from the exact reſemblance of the terminations of the caſes throughout the three ſimilar declenſions. In nouns of the firſt declenſion, the reſemblance is too palpable to ſtand in need of illuſtration. In the 2d the Greek genitive is ου. In Latin the *o* is thrown out, and the termination becomes *i*. The Latin dative ends in *o*, which is the Greek dative, throwing away ι *ſubſcriptum*, which was but faintly ſounded in that language. No genuine Greek word ended in μ or *m*. In the termination of flexions, they changed it into ν. The Latins retained *m*, which had been imported as a terminating letter, at an era before the Greek language had undergone its laſt refinement.—Hence the Latin accuſative in *um*, inſtead of the Greek ν. The vocative declenſion was in this caſe originally like the nominative. The Latins have no dual number, becauſe the Æolian dialect, from which they copied, had none. The third declenſions in both languages are ſo exactly parallel, that it would be ſuperfluous to compare them.

"The Latins have no *articles*, which is certainly a defect. The Pelaſgic, from which they copied, had not adopted that word in the demonſtrative ſenſe. Homer indeed ſeldom uſes it; and the probability is, that the more early Greeks uſed it leſs frequently. Thus in Latin, when I ſay, *video hominem*, it is impoſſible to find out by the bare words whether the word *hominem* intimates *a man*, or *the man*; whereas in Greek it would be βλεπω ανθρωπον, *I ſee a man*, βλεπω τον ανθρωπον, *I ſee the man*. Hence the firſt expreſſion is indefinite, and the ſecond definite.

"The ſubſtantive verb *ſum* in Latin ſeems to be partly formed from the Greek and partly not. Some of the perſons of the preſent tenſe have a near reſemblance to the Greek verb ειμι or εσμι, while others vary widely. The imperfect, præterite, and præterperfect, have nothing common with the Greek verb. The future *ero* was of old *eſo*, and is indeed genuine Greek. Upon the whole, the Latin ſubſtantive verb more nearly reſembles the Perſian verb *heſten* than that of any other language we are acquainted with.

"The want of *aoriſts* or indefinite tenſes ſeems a palpable defect in the Latin language. The uſe of theſe among the Greeks enabled the writer to expreſs the ſpecific variations of time, with more accuracy and preciſion than the Latins, who never attempted to ſpecify them by any other tenſe but the imperfect and pluperfect. Indeed both the Greek and Latin languages were much inferior to the Engliſh in this reſpect." See LANGUAGE, *Sect.* V. and VI.

"The Latins in reducing verbs to their four conjugations, formed their inflexions in a very regular manner. Many verbs of the firſt claſs reflect their præterite and ſupine like thoſe of the ſecond: thus *domo*, inſtead of giving *avi* and *atum*, has *ui* and *itum*, like *monui* and *monitum*. Many few verbs of the 3d conjugation have *ivi* and *itum*, as if they belonged to the 4th; e. g *peto*, *petivi*, *petitum*. Then, ſome verbs have *io* in the preſent, *ivi* in the præterite, and *itum* in the ſupine, contrary to the rules of analogy, they in reality belong to the third; ſuch are *cupio*, *cupivi*, *cupitum*, *cupere*, &c. Some verbs of the 2d conjugation have their præterite and ſupine as if they belonged to the third; thus, *jubeo*, *juſſi*, *juſſum*, *jubere*; *augeo*, *auxi*, *auctum*, *augere*. Some verbs which are actually of the 4th conjugation, have their præterite and ſupine as if they were of the third; thus *ſentio*, *ſenſi*, *ſenſum*, *ſentire*; *haurio*, *hauſi*, *hauſtum*, *haurire*, &c. Theſe are all irregularities.

"Another blemiſh in the Latin tongue is occaſioned by its wanting a participle of the preſent tenſe in the active voice. This defect is very mutually felt, and is the cauſe of an awkward circumlocution, wherever it happens. Thus, the general having croſſed the river, drew up his army;" *Imperator, cum tranſiiſſet fluvium, aciem inſtruxit*. Here *cum tranſiiſſet flumen* is a most circumlocution, which is at once avoided by the Greek ὁ ἡγεμων περασας τον ποταμον, &c. These always prove an incumbrance in the caſe of intranſitive verbs. When active deponents occur, it is eaſily avoided. Thus, "Cæſar having encouraged the ſoldiers, gave the ſignal for joining battle;" *Cæſar cohortatus milites, ſignum committendi dedit*.

"Another palpable defect in this language ariſes from the want of a *participle* of the *preſent* tenſe. This again muſt produce an inconvenience upon many occaſions, as will be obvious to every Latin ſtudent. The two *ſupines* are univerſally allowed to be ſubſtantive nouns of the 4th declenſion. How theſe aſſumed the nature of verbs is not eaſy to determine. When they are placed after verbs or nouns, the matter is attended with no difficulty; but how they ſhould acquire an active ſignification, and take the caſe of the verb with which they are connected, implies a kind of prerogative. The Latin *gerunds* form an unnatural anomaly. Every Latin ſcholar knows that thoſe words are nothing but the neuter of the participles of the future paſſive. The Grammarians of the Latin tongue, however, elevate them from their primary condition, giving them upon many occaſions an active ſignification.

"Another inconveniency ariſes from the want of the *preſent participle* of the verb *ſum*. Great inconveniency is derived from the uſe of the

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ciple *ens* in Greek; and indeed it appears surprising that the Latins neglected to introduce the article *ens* into their language. In this they are singular. Here again a circumlocution becomes necessary in such a case as the following: "The senate being at Rome, passed a decree." Instead of saying *senatus ens Romæ, legem tulit*, we are obliged to say *cum senatus Romæ esset*, &c. If the words *ens* or *existens* had been adopted, as in the Greek, this odious circumlocution would have been avoided. Many other defects of the like kind occur to every person even in the most applied classical authors.

If we compare the structure of the Greek and Latin languages, we will quickly be convinced of their characteristic features are extremely different. The genius of the former seems easy and genial; whereas that of the latter, notwithstanding the united efforts of poets, orators, and philosophers, still bears the marks of violence and restraint. To translate Greek into English is no laborious task; the texture of the two languages is so congenial, that the words and phrases, and even idiomatic expressions, naturally slide into each other. With the Latin the case is quite otherwise; and before elegant English can be produced, one must deviate considerably from the original. Should we attempt to translate a piece of English into Greek, and at the same time into Latin, the translation of the former would be attended with much less difficulty than that of the latter, supposing the translator equally skilled in both languages.

This incongruity seems to spring from the following cause. Before any man of considerable genius, either in the capacity of a poet, grammarian or rhetorician, appeared at Rome, the language had acquired a strong and inflexible tone, almost unborn to be exactly moulded according to the Grecian standard. After a language has continued several centuries without receiving a new form, it becomes like a full grown tree, incapable of being bent to the purposes of the mechanic. Notwithstanding all these obstructions, it arrived at such a pitch of perfection, as to rival, perhaps excel, all the other European languages, the Italian only excepted. Had men of the taste, judgment, and industry of Ennius, Plautus, Terence, Cicero, and the other worthies of the Augustan age, appeared in the early stages of the Roman commonwealth, their language might have been thoroughly reduced to the Grecian architype, and the two dialects might have improved each other.

We have observed that the Latin tongue was a mixture of all the languages spoken by the vagrant tribes who composed the first elements of that republic. The prevailing dialects were the Pelasgic, Hetruscan, and the Celtic, which was the original tongue of Italy. Hence the primary dialect of the Romans was composed of discordant materials, which never acquired a natural and congenial union. This motley mixture was chiefly the original dialect of the Romans. The Pelasgic or Hetruscan part of it retained a strong flavour of the oriental style. The Celtic part seems to have been prevalent, since we find that almost all of the names of places, especially in the middle and northern parts of Italy, are actually of Celtic original. It is therefore clear that the style of the first Romans was composed of the languages above mentioned. Their most celebrated writers upon etymology were Ælius Gallus, Quintus Cornificius, Nonius Marcellus, and Festus. At the head of these is Terentius Varro, whom Cicero styles the most learned of all the Romans. From these writers we are to expect no light. Their etymologies are generally childish and futile.

"Many circumstances concur to make it highly probable that, in the earliest periods of the language, very few inflexions were introduced. 1st, When the Pelasgi left Greece, the Greek language itself was not fully polished. 2d, The Arcadians were never thoroughly cultivated. They were a rustic pastoral people, and little minded the refinements of a civilized state; consequently the language they brought into Italy at that era must have been of a coarse and irregular contexture. From these circumstances, it appears that the earliest language of the Romans was very little diversified with inflexions. The effect of this was, that the modern Romans did not understand the language of their early progenitors. Polybius, speaking of the earliest treaty between the Romans and Carthaginians, says, "The Roman language has undergone so many changes since that time to the present, that even those, who are most deeply skilled in the science of antiquities, cannot understand the words of that treaty but with the greatest difficulty."

"After the Romans became acquainted with the Æolian Greeks, who seized upon both coasts of Italy towards the S. which they called *Magna Græcia*, they began to torture their language into that foreign contexture. The most ancient specimen of this kind consists of the remains of the *XII tables*. Here every thing is rude and of a clumsy cast; for though by this time considerable progress had been made in refinement, and the language of Rome had begun to appear in a Grecian uniform, still those changes were not natural. Soon after appeared M. Fabius Pictor and Sisenna; historians often quoted by Livy, but whose works are long since irrecoverably lost. The *Fasti Capitolini* are often mentioned; but they too perished in the burning of the Capitol; during the civil wars between Marius and Sylla. We must therefore leave the Latin tongue during those periods rude and barbarous, and descend to others more characteristically marked.

"In this period we find Ennius, who wrote a Roman history in hexameter verse in 18 books, which he called *Annals*; most part of which is now lost. He likewise translated *Euhemerus de Origine Deorum*; a work often mentioned by the Christian fathers in their disputes with the Pagans, and sometimes quoted by Cicero. Then followed Caius Lucilius the famous satyrist. Accius Valerius, Ædituus, Alpinus, &c. whose fragments were published by the Stephens, Paris, 1564. All these imitated the writers of Greece, or translated from them. By their exertions the spirit of these authors was transfused into the Latin tongue, and its structure accommodated to the Grecian plan.

"Plautus and Terence, by translating the comedies

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medies of Menander and Diphilus into their own language, taught the Latin Muſes to ſpeak Attic Greek. To ſpeak that language was then the *ton*, as it is now with us to chatter French. Greek tutors were retained in every reputable family; and many Romans of the firſt rank were equally qualified to ſpeak or write both in Greek and Latin. The original jargon of Latium became obſolete and unintelligible; and Cato himſelf condeſcended to learn the Greek language at 80.

"To pretend to enumerate the various inimitable examples of the Auguſtan or golden age of the Roman tongue, would be a vain taſk: we ſhall only quote a few lines from Velleius Paterculus. Having obſerved, that the Greek authors, who had excelled in literature, had all made their appearance about the ſame time, he adds, "Nor was this circumſtance more conſpicuous among the Greeks than among the Romans; for the Roman tragedy is confined to Accius and the period when he flouriſhed. The charming wit of Latin elegance was brought to light by Cecilius, Terentius, and Afranius nearly in the ſame age. As for our hiſtorians (to add Livy alſo to the age of the former), if we except CATO, they were all confined to a period of 80 years; ſo neither has our ſtock of poets extended to a ſpace much backward or forward. But the energy of the bar, and the finiſhed beauties of proſe eloquence, ſetting aſide the ſame Cato (by leave of P. Craſſus, Scipio, Lælius, the Gracchi, Fannius, and Ser. Galba,) broke out all at once under Tully the prince of his profeſſion."

„ From this quotation (the Dr argues,) it appears, that the Romans themſelves were convinced of the ſhort duration of the *golden age* of their language. According to the moſt judicious critics, it commenced with the era of Cicero's oratorical productions, and terminated with the reign of Tiberius, or perhaps the middle of his reign. It is generally believed that eloquence, and with it every thing liberal, elevated, and manly, was baniſhed Rome by the deſpotiſm of the Cæſars. We imagine that the tranſition was too inſtantaneous to have been entirely produced by that unhappy cauſe. Deſpotiſm was firmly eſtabliſhed among the Romans about the middle of the reign of Auguſtus; and yet that period produced ſuch a group of learned men as never adorned any other nation in ſo ſhort a ſpace of time. The age of Lewis XIV. was the golden period of the French tongue; and that age produced a race of learned men, in every department, ſuperior in number, and equal in genius to the literati who flouriſhed under the noble and envied conſtitution of Britain during the ſame age, though the latter is univerſally allowed to have been the golden period of this country. The Britiſh iſles, we hope, enjoy ſtill as much liberty as ever; yet we believe few people will aver, that the writers of the preſent age are equal either in ſtyle or in genius, to that noble group, who flouriſhed from the middle of the reign of Charles I. to the middle of the reign of George II. and here deſpotiſm is quite unconcerned.

"In the eaſt the ſame obſervation is confirmed. The Perſians have long groaned under the Mohammedan yoke, and yet every oriental ſcholar will allow, that in that country, and under the moſt galling tyranny, the moſt amazing productions of taſte, genius, and induſtry, that ever dignified human nature, have been exhibited. Under the Arabian caliphs, the ſucceſſors of Mohammed, appeared writers of a moſt ſublime genius, though never was deſpotiſm more cruelly exerciſed than under thoſe fanatics. The revival of letters at the era of the reformation was chiefly promoted and cheriſhed by petty deſpotical princes. We cannot therefore agree, that the deſpotiſm of the Cæſars baniſhed eloquence and learning from Rome. Longinus indeed has attributed this misfortune to that cauſe, and tells us, "It is likely that is formed to nurſe the ſentiments of great minuſes, to puſh forward the propenſity of each to inſpire them with hopes, and the generous ambition of being the firſt in rank." When Longinus wrote this, he did not reflect that he was a ſtriking inſtance of the unſoundneſs of obſervation.

"As to ſcience, the fact is undoubtedly on the other ſide. That Seneca was ſuperior to Livy in philoſophy, cannot be reaſonably contradicted. The laſter had read, and actually abridged the whole extent of Grecian philoſophy: this confined his reading rather than his learning. The former had addicted himſelf to the ſtoic ſect; and he does not write with the ſame flow of eloquence as Tully, he thinks more deeply and reaſons cloſely. Pliny's Natural Hiſtory is a vaſt collection, and contains more uſeful knowledge than all the writings of the Auguſtan age collected into one maſs. We think the hiſtories of Tacitus, if inferior to Livy in ſtyle and purity of diction, much ſuperior in arrangement, and vigour of compoſition. Quintilian, Pliny the younger, Suetonius, Petronius Arbiter, and Juvenal, deſerve high eſteem; nor are they inferior to their immediate predeceſſors. We think there is good reaſon to conclude, that the loſs of liberty among the Romans did not produce the deſtruction of eloquence, ſcience, elevation of ſentiment, or refinement of taſte. There were other circumſtances which chiefly contributed to produce that revolution.

"Velleius Paterculus aſſigns ſome very ingenious reaſons for this cataſtrophe. "Emulation (ſays he) is the nurſe of genius; and one will envy, and another admiration, fires imitation. To be ſtationary in perfection is a difficult matter; and by analogy, that which cannot go forward goes backward. As at the outſet we are animated to overtake thoſe whom we deem before us, ſo when we deſpair of being able to overtake or to paſs by them, our ardour languiſhes together with our hope, and what it cannot overtake ceaſes to purſue; and leaving the ſubject already engroſſed by another, it looks out for *one* upon which to exert itſelf."

"This was the caſe with the Romans. The heroes of the Auguſtan age had born away the prize of eloquence, hiſtory, poetry, &c. Their ſucceſſors deſpaired of being able to equal, leſs to ſurpaſs them, in any of theſe walks. They were therefore under the neceſſity of ſtriking out a new path by which they might arrive at eminence. Conſequently Seneca introduced the

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style, as the French call it; that is, a ſhort, ſparkling, figurative diction, abounding with antitheſis, quaintneſſes, witticiſms, embelliſhed with flowers, and meretricious ornaments; whereas, the ſtyle of the Auguſtan age was natural, ſimple, ſolid, unaffected, and properly adapted to the nature of the ſubject and the ſentiments of the author.

The hiſtorian SALLUST laid the foundation of this unnatural ſtyle. Notwithſtanding all his excellencies, he every where exhibits an affectation of antiquity, an antithetical caſt, an air of ſtudy, an accuracy, exactneſs, and regularity. His ſounds, his clauſes, ſeem to be adjuſted exactly according to number, weight, and meaſure, without excels or defect. Paterculus imitated this writer; and ſucceeded beſt in thoſe points wherein his archetype had failed. Tacitus deviated from the Auguſtan exemplars, and imitated Sallust; but affecting brevity, he often falls into obſcurity. The other contemporary writers emulated a corrupt ſtyle; and their works are held in little eſtimation, and bear marks of degeneracy.

That degeneracy, however, did not ſpring from the deſpotic government under which theſe writers lived, but from that affectation of *ſingularity* into which they were led by an eager but unhappy deſire of ſignalizing themſelves. But the infection of this rage for *innovation* did not reach the ſentiments as it had done their ſtyle; for in this point they were ſo far from falling below the meaſure of the writers of the former age, that in many inſtances they ſeem to have ſurpaſſed them.

With reſpect to ſentiment and mental exertion, the Latin authors preſerved their vigour, till luxury and effeminacy enervated both the bodies and minds of the Romans. The contagion became univerſal; and a liſtleſſneſs, or intellectual languor, the uſual concomitant of luxury, ſpread itſelf over the mental faculties, which rendered them not only averſe to, but even incapable of, induſtry and perſeverance. This lethargic ſtate of mind ſeems to have commenced towards the concluſion of the ſilver age; that is, about the end of the reign of Adrian. It was then that the Roman eagles began to ſtoop, and the power of Rome, as well in arts as in arms, began to decline.

As the Roman genius, about that period, began to decline, ſo the ſtyle of the ſilver age was miſerably vitiated with barbariſms. The barbarians who flocked to Rome from all parts of the empire; the ambaſſadors of foreign princes, and the princes themſelves, with their attendants; the prodigious numbers of ſlaves over all; the frequent commerce between the Romans and the barbarians; all concurred to corrupt the Latin tongue. This vitiated character of ſtyle and ſentiment became more and more prevalent, from the reign of Adrian to the removal of the imperial ſeat to Conſtantinople. This ſucceeded the iron age, when the Roman language became abſolutely barbarous. Towards the cloſe of the ſilver, and during the whole of the brazen age, there appeared, however, many writers of no contemptible talents. The moſt conſiderable was SENECA the ſtoic, the maſter of

See SENECA.

"About the ſame time lived PERSIUS the ſatyriſt, the friend and diſciple of the ſtoic Cornutus: to whoſe precepts, as he did honour by his virtuous life, ſo his works, though ſmall, ſhow an early proficiency in the ſcience of morals. Under the mild government of Adrian and the Antonines lived Aulus Gellius, an entertaining writer in the miſcellaneous way, well ſkilled in criticiſm and antiquity. His works contain ſeveral valuable fragments of philoſophy, which are indeed the moſt curious part of them.

"In the ſame age with Aulus Gellius flouriſhed Apuleius of Madaura in Africa; a Platonic writer, whoſe matter in general far exceeds his perplexed and affected ſtyle, too conformable to the falſe rhetoric of the age when he lived.

"With Aulus Gellius we may range MACROBIUS; not becauſe a contemporary (for he is ſuppoſed to have lived under Honorius and Theodoſius), but from his near reſemblance in the character of a writer. His works, like thoſe of the other, are miſcellaneous; filled with mythology and ancient literature, with ſome philoſophy intermixed.

"Boethius was deſcended from one of the nobleſt of the Roman families, and was conſul in the beginning of the ſixth century. He wrote many philoſophical works; but his ethic piece on the Conſolation of Philoſophy deſerves great encomiums, both for the matter and the ſtyle; in which latter he approaches the purity of a far better age than his own. By command of Theodoric king of the Goths, this great and good man ſuffered death;" (See BOETHIUS and ITALY, § 7.) "with whom the Latin tongue, and the laſt remains of the Roman dignity, may be ſaid to have ſunk in the weſtern world.

"There were beſides a number of poets and hiſtorians who flouriſhed during this period; ſuch as Silius Italicus, Claudian, Auſonius, &c. (See AUSONIUS, CLAUDIAN, ITALICUS, &c. and *Joh. Alberti Fabricii Bibl. Lat.*) There flouriſhed, too, a number of eccleſiaſtical writers, ſome of whom deſerve great commendation. The chief of theſe is Lactantius, who has been deſervedly dignified with the title of the *Chriſtian Cicero*.

"The Roman authors amount to a very ſmall number in compariſon of the Greek. When we conſider the extent and duration of the Roman empire, we are juſtly ſurpriſed to find ſo few writers of character and reputation in ſo vaſt a field.

"Upon the whole, the Latin tongue deſerves our attention beyond any other ancient one now extant. The grandeur of the people by whom it was ſpoken; the luſtre of its writers; the empire which it ſtill maintains among ourſelves; the neceſſity we are under of learning it, in order to obtain acceſs to almoſt all the ſciences, nay even to the knowledge of our own laws, of our judicial proceedings, of our charters; all theſe circumſtances, and many others too numerous to be detailed, render the acquiſition of that imperial language in a peculiar manner improving and intereſting. Spoken by the conquerors of the ancient nations, it partakes of all their revolutions, and bears continually their impreſſion. Copious and majeſtic, when, weary of battles, the Romans vi-

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ed with the Greeks in ſcience, it became the learned language of Europe, and by its luſtre made the jargon of ſavages diſappear. After having controlled by its eloquence, and humanized by its laws, all thoſe people, it became the language of religion. In ſhort, the Latin language will be ſtudied and eſteemed as long as good ſenſe and fine taſte remain in the world."

Sect. X. *Of the* Celtic Language.

"The deſcendants of Japhet having peopled the weſtern parts of Aſia, at length entered Europe. Some broke into that quarter of the globe by the N. others croſſed the Danube near its mouth. Their poſterity gradually aſcended towards the ſource of that river; afterwards they advanced to the banks of the Rhine, which they paſſed, and thence ſpread themſelves as far as the Alps and the Pyrenean hills. Theſe people were compoſed of different families; all, however, ſpoke the ſame language; their manners and cuſtoms bore a near reſemblance; there was no variety among them but that difference which climate introduces. They were all known, in the more early times, by the general name of *Celto-Scythæ*. In proceſs of time, becoming exceedingly numerous, they were divided into ſeveral nations. Thoſe who inhabited that large country bounded by the ocean, the Mediterranean, the Rhine, the Alps, and the Pyrenees, were denominated *Gauls* or *Celts*. Theſe multiplied ſo prodigiouſly in a few centuries, that the fertile regions which they then occupied could not afford them the means of ſubſiſtence. Some of them paſſed over into Britain; others croſſed the Pyrenees, and formed ſettlements in the northern parts of Spain. Others made their way into Italy, and colonized thoſe parts which lie at the foot of the mountains; whence they extended themſelves towards the centre of that rich country.

"By this time the Greeks had landed on the E. coaſt of Italy, and founded numerous colonies. The two nations vying as it were with each other in populouſneſs, and always planting colonies in the courſe of their progreſs, at length rencountered about the middle of the country. This central region was then called Latium. Here the two nations formed one ſociety, called Latini, *i. e. the Latin people*. The languages of the two nations were blended; and hence, according to ſome, the Latin is a mixture of Greek and Gaelic.

"As the Gauls were a brave and numerous people, they maintained themſelves in their priſtine poſſeſſions, uninvaded, unconquered, till their domeſtic quarrels expoſed them as a prey to thoſe Romans whom they had often defeated. Not being addicted to commerce, they had little opportunity to mingle with foreigners. Their language, therefore, muſt have remained unmixed with foreign idioms. Such as it was when they ſettled in Gaul, ſuch it muſt have continued till the Roman conqueſts. If therefore there is one primitive language now exiſting, it muſt be found in the remains of the Gaelic or Celtic. Some very learned men, upon diſcovering the coincidence of very great numbers of words in ſome of the Greek dialects with other words in the Celtic, have been inclined to eſtabliſh a ſtrict affinity between theſe languages.

"Many learned men have ſhown, that all the local names in the north of Italy are actually of Celtic extraction. Theſe names generally point out or deſcribe ſome circumſtance relating to the nature of their ſituation; ſuch as expoſure, eminence, lowneſs, moiſtneſs, dryneſs, coldneſs, heat, &c. This is a very characteriſtic feature of an original language; and in the Celtic it is prominent, that the Erſe names of places all over Scotland are, even to this day, peculiarly diſtinguiſhed by this quality.

"To diſcover the ſources from which the Celtic tongue is derived, we muſt, 1. Conſult Greek and Latin authors, who have preſerved ſome Gaelic or Celtic terms in their writings. We muſt have recourſe to the Welch and *Bretagne* dialects; in which any new words eaſily diſtinguiſhed from the primitive. 3. muſt converſe with the country people and ſaints, who live at a diſtance from cities, in countries where it was once the vernacular tongue. We have been credibly informed, that a Highgentleman, croſſing the Alps for Italy, accidentally fell in with an old woman, a native of parts, who ſpoke a language ſo near akin native Erſe, that he could underſtand her little difficulty; and that ſhe, on the other underſtood moſt of his words. 4. The moſt genuine remains of the Gaelic tongue are to be found in the Highlands of Scotland; the reaſon is obvious. The Scottiſh Highlanders are the unmixed unconquered poſterity of the ancient Britons, into whoſe barren domains the Roman never penetrated. Amidſt all the revolutions that ſhook and convulſed Albion, thoſe mountainous regions were left to their primitive lords, who, though hoſpitable in the extreme, did not allow ſtrangers to reſide long among them. The language, accordingly, remained unmixed, even to this day, eſpecially in the moſt remote parts and unfrequented iſlands.

"The Norwegians ſubdued the weſtern iſles of Scotland at a time when the Scottiſh monarchy was ſtill in its minority. They erected a kind of principality over them, of which the iſle of *Man* was the capital: yet we have been informed by the moſt reſpectable authority, that there is not at this day a ſingle vocable of the Norſe or Daniſh tongue to be found among the iſlanders. This fact affords a demonſtration of that ſuperſtitious attachment with which they were devoted to their vernacular dialects.

"The Welsh dialect cannot, we think, be pure. The *Silures* were conquered by the Romans, to whom they were actually ſubject three centuries. During this period, a multitude of Italian exotics muſt have been tranſplanted into their language; and indeed many of them are diſcernible at this day. Their long commerce with their Engliſh neighbours and conquerors hath alſo adulterated their language. The Erſe is now ſpoken by a race of people whoſe merit and ingenuity are nearly upon a level. The ancient hiſtory being entirely fabulous, we muſt ſuſpect that the Iriſh are of Celtic extraction, and that their forefathers emigrated from the W. of

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of Britain at a period prior to all hiſtorical or traditional annals. Ireland was once the *native land of ſaints*. The chief actors on this ſacred ſtage were Romaniſts. They pretended to improve the language of the natives; and certainly they made it deviate very conſiderably from the original Celtic.

"Though the Hibernian tongue differs conſiderably from the original Celtic, ſome very ingenious eſſays have been lately publiſhed by the learned members of the *Antiquarian Society of Dublin*; in which the coincidence of that tongue, in ſome of the oriental dialects, has been ſupported by very plauſible arguments. In a diſſertation publiſhed in 1772, they have exhibited a collection of *Punico-Maltese* words compared with words of the ſame import in Iriſh, where it muſt be allowed the reſemblance is palpable. In the ſame diſſertation they have compared the celebrated *Punic* ſcene in Plautus, with its tranſlation into the Iriſh; in which the words in the two languages are ſurpriſingly ſimilar. Hence it appears that the Celtic is coeval and congenial with the moſt ancient languages of the eaſt. The Danes and Norwegians formed ſettlements in Ireland; and the Engliſh have long been ſovereigns of that iſland. Theſe circumſtances muſt have affected the vernacular idiom of the natives; not to mention the neceſſity of adopting the language of the conquerors in law, ſciences, and religion.

The inhabitants of the highlands and iſlands of Scotland are the deſcendants of thoſe Britons who fled from the power of the Romans, and ſecured themſelves among the fens, rocks, and faſtneſſes of thoſe rugged mountains and ſequeſtered glyns. They preferred theſe waſtes and wilds with liberty and independence, to the fertile valleys of the ſouth, with plenty embittered by ſlavery. They carried their language along with them, a branch of the Celtic. With them a number of the druidical prieſts, who knew the native dialect in all its beauties and varieties. They were ſequeſtered by their ſituation from the reſt of the world; and conſequently their language muſt have remained in the ſame ſtate in which they received it from their anceſtors. They called it genuine *Celtic*, and ſuch they preſerved it.

When the Scots became maſters of the low country, and their kings and a great part of the nation embraced the Saxon manners, and adopted the Saxon language, the genuine Caledonians obſtinately retained their native tongue, dreſs, manners, clanſhips, and feudal cuſtoms, and could not cordially aſſimilate with their ſouthern neighbours. Their language, therefore, could not be much mixed with words or idioms borrowed from the Saxon. Indeed the commerce between them and the ſouth of the ſouth, till about 150 years ago, was very tranſient; nor was their native dialect in the leaſt affected by it.

Their language, however, did not degenerate, becauſe there exiſted among them a deſcription of men whoſe profeſſion obliged them to guard againſt that misfortune. Every chieftain retained in his family a bard, whoſe province it was to compoſe poems in honour of his lord, to commemorate the glorious exploits of his anceſtors, to record the genealogy and connections of the family; &c. (See BARD, § 4, 5.) Thoſe poetic geniuſes watched over their vernacular dialect with the greateſt care and anxiety; becauſe in their compoſitions no word was to be loſt.

"The uſe of letters was not known among the ancient *Celtæ*; their druidical clergy forbade the uſe of them. All their religious rites, their philoſophical dogmas, their moral precepts, and their political maxims, were compoſed in verſes which their pupils were obliged to commit to memory. Accordingly letters were unknown to the Caledonian Scots, till they learned them from their ſouthern neighbours or from the Romans. Their bards, therefore, committed every thing to memory; and of courſe the words of their language muſt have been faithfully preſerved. We find that the celebrated poems of Oſſian, (ſee OSSIAN,) have thus been preſerved from father to ſon for more than 1000 years. The beauty, ſignificancy, harmony, variety, and energy of theſe verſes, ſtrike us even in a proſe tranſlation.

"The Gaelic (ſays James Grant, Eſq. advocate,) is not derived from any other language, being obviouſly reducible to its own roots. Its combinations are formed of ſimple words of a known ſignification; and thoſe words are reſolvable into the ſimpleſt combinations of vowels and conſonants, and even into ſimple ſounds. In ſuch a language we may expect that ſome traces will be found of the ideas and notions of mankind living in a ſtate of primeval ſimplicity; and if ſo, a monument is ſtill preſerved of the primitive manners of the Celtic race, while as yet under the guidance of ſimple nature, without any artificial reſtraint or controul.

"The ſudden ſenſations of heat and cold, and bodily pain, are expreſſed by articulate ſounds, which, however, are not uſed in this language to denote heat, cold, or bodily pain. A ſudden ſenſation of heat is denoted by an articulate exclamation *hait*; of cold, by *id*; of bodily pain, by *oich*. All theſe ſounds may be called *interjections*, being parts of ſpeech which diſcover the mind to be ſeized with ſome paſſion. Few of the improved languages of Europe preſent ſo great a variety of ſounds which inſtantaneouſly convey notice of a particular paſſion, bodily or mental feeling.

"The pronouns *be* and *ſhe* are expreſſed by the ſimple ſounds *e* and *i*, and theſe are the marks of the maſculine and feminine genders; for a neuter gender is unknown in the *Gaelic*. The compoſitions of rude and barbarous ages are univerſally found to approach to the ſtyle and numbers of poetry; and this too is a diſtinguiſhing character of the *Gaelic*. Bodily ſubſiſtence will always be the principal concern of an uncultivated people. Hence *ed* or *eid* is uſed upon diſcovery of any animal of prey or game: it is meant to give notice to the hunting companion to be in readineſs to ſeize the animal: and hence we believe *edo* ſignifies *to eat* in Latin, and *ed* in Iriſh, ſignifies *cattle*. Theſe are words importing the ſimplicity of a primitive ſtate, and are common in the Gaelic idiom. Traces of imitative language remain in all countries. The word uſed for *cow* in the Gaelic language is *bo*, plainly in imitation of the lowing of that animal.

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"In joining together original roots in the progreſs of improving language and rendering it more copious, its combinations diſcover an admirable juſtneſs and preciſion of thought, which one would ſcarce expect to find in an uncultivated dialect. The Gaelic language, in its combination of words, ſpecifies with accuracy the known qualities, and expreſſes with preciſion the nature and properties, which were attributed to the object denominated." Of theſe Dr Doig gives numerous examples from Mr Grant's Eſſays; but which we omit, as they can only be intereſting to thoſe who underſtand the Gaelic language; of which we have already given a very conciſe and comprehenſive account, under the article Gaelic, § 2; from Dr James Robertſon's ſtatiſtical account of Callander; to which we would refer thoſe who with for farther information reſpecting this ancient language: who may alſo conſult Pezron's *Origin of Ancient Nations*, Bullet's *Mem. de la Langue Celtique*, Parſon's *Rem. of Japhet*, Gebelin's *Monde Prim.* &c.

"When the Celtic language (ſays Dr Doig) was generally ſpoken over Europe, it ſeems to have been amazingly copious. By conſulting *Bullet's Memoirs*, it appears that its names for the common and various objects of nature were very numerous. The words denoting water, river, wood, foreſt, mountain, lake, &c. were moſt preciſely accommodated to ſpecify each modification and variety, with ſuch peculiar exactneſs as even the Greek, with all its boaſted idiomatical preciſion and copiouſneſs, has not been able to equal. The appearances, which diverſify the viſible face of inanimate nature, arreſt the attention of men in an uncultivated ſtate. Unaccuſtomed to thought and abſtract reaſoning, their minds expand and exerciſe their powers upon ſenſible objects, and of courſe mark all the *minutia*, and almoſt imperceptible diſtinctions, with an accuracy to us ſeemingly impoſſible.

Dr Doig adds, that "the Celtic was one of the dialects of the primitive language; that it once overſpread by far the greateſt part of Europe; that the Gaelic now ſpoken in the northern parts of Scotland and the adjacent iſlands is the *moſt pure* and *unmixed* relic of that tongue now any where exiſting. There is lately publiſhed an excellent tranſlation of both the Old and New Teſtaments into Gaelic, which has hitherto been a deſideratum among thoſe who ſpeak this language. Such a tranſlation will at once contribute to preſerve that ancient tongue, and diſſeminate the knowledge of the truth among the natives of that country."

On the origin of the name of the people, our author has the following remarks:—"*Gaul* and *Gal*, were the two names by which this people was diſtinguiſhed by the Greeks and Romans. Mr M'Pherſon imagines, that the appellation of *Celt* is an adjective derived from *Gael*, the aboriginal name of the inhabitants of ancient Gaul. But we can ſee no connection between *Gael* and *Celt*, nor do we think that the latter is an adjective. We believe that thoſe people called themſelves *Cael*, and not *Gael*. We are ſure that Caledonia, or *Cal-don* or *dun*, was an ancient name of the mountainous parts of Scotland.

"Though many different opinions have been advanced with relation to the etymology of this word, we imagine that none is ſo probable as that which ſuppoſes that it is compounded of the two Celtic words *Cal* or *Kal*, that is *Gal* or *Gaul*, and *dun*, which ſignifies *a hill* or *mountain*. Upon this ground, the Caledonii will import the Gauls of the mountains, or, which is the ſame, the Highland Gauls. The Iriſh and Highlanders reciprocally denominate themſelves by the general title of *Cael*, *Gael*, or *Gauls*. They alſo diſtinguiſh themſelves, as the Welch originally did, and as the Welch diſtinguiſh them both at preſent, by the appellation of *Guidhioll*, *Geuthel* and *Gathel*. The intermediate *th*, they ſay, is left quieſcent in the pronunciation, as it is in many words of the Britiſh language; in which caſe *Gathel* would immediately be formed into *Gael*; and Gathel is actually founded like *Gael* by both the Iriſh and Highlanders at preſent. The appellation of *Gathel*, therefore, ſay they, was originally the ſame with *Gael*, and the parent of it."

Sect. XI. *Of the* Gothic Language.

"The Celtic and Gothic tongues (ſays Dr Doig) at one time divided Europe between them. Both were of equal antiquity, both originated in Aſia, both were dialects of the original language of mankind. The Celtic, however, was firſt imported into Europe. The Gauls or Celts had penetrated fartheſt towards the weſt; a circumſtance which plainly intimates the priority of their arrival.

"The Goths and Getæ were the ſame race of people, according to Procopius *de bello Goth.*; and Strabo informs us, that they ſpoke the ſame language with the Thracians, from whoſe confines they had ſpread themſelves northward as far as the W. banks of the Danube. Vopiſcus, in the Hiſtory of Probus, tells us, that this emperor obliged "the Thracians, and all the Getic tribes, either to ſurrender or accept of his friendſhip." The expreſſion indicates, that the Thracians and the Getic tribes were deemed the ſame race of people. From this deduction it is clear, that the Getæ and Thracians were brethren; that they ſpoke the ſame language: and that their laws, manners, cuſtoms, and religious tenents, were the ſame, might eaſily be ſhown.

"The Thracian language, as might be demonſtrated from names of perſons, offices, places, and cuſtoms, among that people, was nearly related to the Chaldean and other oriental languages. They are thought to have been the deſcendants of Tiras, one of the ſons of Japhet, and conſequently muſt have preſerved the ſpeech of the Noachic family. The Gothic language abounds with *Pahlavi*, or old Perſic words, which are no doubt remains of the primeval dialect of mankind. The Thracians peopled a conſiderable part of the northern coaſt of Aſia Minor; and conſequently we meet with many names of cities, mountains, rivers, &c. in thoſe parts, exactly correſponding with many names in Europe, evidently impoſed by our Gothic progenitors. Any perſon tolerably acquainted with the remains of the Gothic tongue, will be able to trace theſe with little difficulty.

"We learn from Herodotus, that Darius in his expedition againſt the wandering Scythians who lived on the other ſide of the Iſter or Danube, in his

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his progress subdued the Getæ; and he informs us, that these people held the immortality of the human soul, and that they were the bravest and most just of all the Thracians. After this period, we find them mentioned by almost every Greek writer, even familiarly; for Geta in the comedies of that nation, is a common name for a slave. The Getæ then occupied all that large tract of country which extended from the confines of Thrace to the banks of the Danube: were a brave and virtuous people: and spoke the same language with the Thracians, with whom they are often confounded both by Greek and Roman historians.

"But the name of GOTHS is by no means so ancient. It was utterly unknown both to the ancient Greeks and Romans. The first time that the name *Gath* is mentioned is in the reign of the emperor Decius, about A. D. 250, when they burst out of Getia, and rushing like a torrent into the empire, laid waste every thing with fire and sword. The name of their leader or king was Cniva. Decius, endeavouring to expel them from Thrace, was vanquished and slain. After this irruption, we find them frequently in the Latin authors under the name of *Getæ* or *Gothi*; though the Greeks generally denominate them SCYTHÆ. Verstegan tells us, that *get* and *got* is the same word, which anciently denoted *a soldier*. *Got* in Icelandic signifies *a horse* or *horseman*, and *gata*, *a wanderer*." Some other derivations are given of the name. See GOTHS.

The original seat of the Goths (says Dr Doig) was the country now called *Little Tartary*, into which they had extended themselves from the borders of Thrace. It was called *Little Tartary*, by the Greek writers; and it was the station whence those innumerable swarms advanced, which, in conjunction with the Alani and other barbarous tribes, at length over-ran and subverted the western empire. One part of the Gothic nation was allowed by Constantine II. to settle in Thrace. Before the year 420, most of the Gothic tribes who had settled within the limits of the Roman empire had been converted to the Christian religion; but, unhappily, the greater part of the apostles by whom they had been proselyted, were Arians, which proved fatal to many of the orthodox Christians; for the Arian Goths persecuted them with unrelenting cruelty;" and the orthodox were equally cruel to the Arians.

"About A. D. 367, ULPHILAS, bishop of the Arian Goths, translated the New Testament into the Gothic language. The remains of this translation furnish a genuine and venerable monument of the ancient Gothic dialect. No more is extant of that valuable translation than the Gospels, and a fragment containing part of the epistle to the Romans. The Gospels have been repeatedly published since the first edition by Junius, in 1665, down to that of Mr Lye. Other fragments of the Gothic language have also been found, which our curious readers may see in Dr Lye's Notes to his Edition of the Gothic Gospels. The fragment of the Epistle to the Romans was lately discovered in the library at Wolfenbuttel, and published by Knitel archdeacon of Wolfenbuttel.

"The Goths, prior to the age of Ulphilas, were ignorant of the use of alphabetical characters. The bishop fabricated an alphabet for them, which is a medley of Greek and Roman letters, but rather inclining to the former. This alphabet consists of 25 letters. (See *Plate* II.) Junius has carefully analyzed those letters, and pointed out their powers and sounds in his Gothic alphabet, prefixed to his *Glossarium Gothicum*. They were long retained in all the European languages derived from the Gothic source. In what respects the Gothic language agrees with the oriental tongues, or differs from them, is not easy to ascertain. We have observed in *Sect.* VIII. that a considerable part of the Greek language must have been derived from the Thracian; which, according to Strabo, was the same with the Gothic. The Thracian tongue will be found analogous to the Chaldean. The German, which is a genuine descendant of the Gothic, is full of Persian words: the old Persian or Pahlavi appears to be a dialect of the Chaldean. The learned Junius remarks, that a very considerable part of the Gothic language is borrowed from the ancient Greek.

"Both the learned IBRE in his *Glossarium Suio-Gothicum*, and Wachter in his excellent German and Latin Dictionary, remark the coincidence of Gothic and German words with oriental vocables of the like sound and of the same signification. In the old Saxon, which is another ramification of the Gothic tongue, numberless terms of the same complexion appear. From this deduction it will follow, that the Gothic tongue, in its original unmixed state as it was spoken by the ancient Getæ, was a dialect of the primeval language; that language which the sons of Tiras brought with them from the plains of Shinar, or Armenia, where the primitive mortals had fixed their residence.

"The Thracian tribes first took possession of those parts of Asia Minor which stretch towards the east. Thence they crossed the Hellespont; and it is universally agreed, that both sides of the Hellespont were peopled with Thracians.

"In Asia Minor we meet with the city Perga, or *Perg*. In every tongue descended from the Gothic, the word *Berg* signifies *a rock*, and metaphorically a *town* or *burgh*; because towns were originally built on rocks. Hence *Pergamos*, the fort or citadel of Troy. *Beira* in Thracian signified *a city*; the Chaldaic and Hebrew *Beer* imports *a well*. In ancient times, especially in the East, it was customary to build cities in the neighbourhood of fountains. The word *tros* seems to be the Gothic *trosh*, *brave*. The words *fader*, *moder*, *dochter*, *bruder*, are so obviously Persian, that every etymologist has assigned them to that language. The Persian *bad* or *bed* signifies *a city*; the same word in Gothic imports *a house*, *a mansion*, *an abode*. *Band*, in Persic, a *strait place*; in Gothic, *to bend*. *Heim* or *ham*, *a house*, is of Persian original. Much critical skill has been displayed in tracing the etymology of the Scotch and old English word *Yule*, *Christmas*. *Yule*, derived from *iul*, was a festival in honour of the sun, which was originally celebrated at the winter solstice. *Wick* or *wich* is a Gothic term still preserved in many names of towns; it signifies *a narrow corner*, or small strip of land jutting into the sea, or into a lake or river: hence the Latin *vicus*, and the Greek

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φυτος. In Spaniſh, we have many old Gothic words; among others *hijo*, *a ſon*, the ſame with the Greek υιος. In ſome places of Scotland, we call any thing that is little, ſmall, *wee*; originally ſpelt *wi*, from the very ſame word.

"Theſe few examples we have thrown together, perſuaded that almoſt every word of the language, truly Gothic, may be traced to ſome oriental root or cognate. Many Gothic nouns end in *a*, like the Chaldaic and Syriac; their ſubſtantive verb very much reſembles that of the Perſian, Greek, and Latin; and their active and auxiliary verb has furniſhed the common præterperfect tenſe of Greek verbs in the active voice: that verb is *baban*, but originally *ba*, as the common people pronounce it at this day, eſpecially in the north of Scotland, and among the Swedes, Danes, Norwegians, and Icelanders. We now proceed to inquire what modern tongues are deduced from the Gothic as their ſtock.

"From Mœſia the Goths ſpread themſelves into Dacia, and from thence into Germany. Theſe countries were ſituated in ſuch a manner, that the progreſs of population was forward, and according to the natural courſe of emigration. From Germany they extended themſelves into SCANDINAVIA, that is, Sweden, Denmark, and Norway. Their whole ancient *Edda*, *Sagas*, or *Chronicles*, ſhow that the Goths arrived in Scandinavia by this route, without, however, fixing the era of that event with any tolerable degree of accuracy. By the *Germans*, the ancients underſtood all the nations E. W. and N. reaching from the Danube on the S. up to the extremity of Scandinavia on the Northern Ocean; and from the Rhine and German Ocean on the W. to the river Chronus or Niemen on the E. All theſe nations ſpoke one or other of the Gothic dialects.

"The *Francic* is a dialect of the Teutonic, *Tudeſque*, or old German; and the Goſpels of Ulphilas bear ſuch a reſemblance to the Francic, fragments of which are preſerved in the early French hiſtorians, that ſome learned men have pronounced thoſe Goſpels to be part of an old Francic verſion; but others have refuted this opinion, both from hiſtory and compariſon of the dialects. Schilter has given us large monuments of the *Tudeſque*, or old German, from the 7th century, which prove that the Gothic of Ulphilas is the ſame language. Wachter's learned Gloſſary of the ancient German confirms this. The Anglo-Saxon is alſo a venerable dialect of the Tudeſque; and is ſo intimately connected with the Goſpels, that ſome valuable works on this ſubject are wholly built upon that ſuppoſition.

"The *Icelandic* is the oldeſt relict of the Scandinavian. It begins with Arius Frode in the 11th century, and is a dialect of the German. The remains we have of it are more modern by four centuries than thoſe of the German, and more poliſhed. The Icelandic was poliſhed by a long ſucceſſion of poets and hiſtorians almoſt equal to thoſe of Greece and Rome. Hence it has leſs affinity with the parent Gothic. The Swediſh is more nearly related to the Icelandic than either the Daniſh or Norwegian. That the Swediſh is the daughter of the Gothic, is fully ſhown by Mr Ihre above mentioned, in his *Gloſſarium Suio-Gothicum*. There is, therefore, no doubt as to the identity of the Gothic, preſerved in Ulphilas and other ancient remains, with the German and Scandinavian tongue.

"The modern *German*, a language ſpoken in a far greater extent than any other of modern Europe, reſembles the Gothic Goſpels more than the preſent Daniſh, Norwegian, or Swediſh; and has certainly more ancient *ſtamina*. Its likeneſs to the Aſiatic tongues, in harſhneſs and inflexible thickneſs of ſound, is very apparent.

BUSBEQUIUS ſhows, that the clowns of Crimea Tartary, remains of the ancient Goths, ſpeak language almoſt German. Theſe clowns were doubt deſcendants of the ancient Goths, who mained in their native country after the o had emigrated. It is therefore apparent from whole of this inveſtigation, that the Gothic introduced into Europe from the Eaſt, a probably a dialect of the language originally ken by men."

SECT. XII. *Of the* SCLAVONIAN LANGUA

"THERE is another language which perv conſiderable part of Europe, and like the G ſeems to have originated in the Eaſt; the S *nic* or rather *Slavonic*, which prevails far an in the E. parts of this diviſion of the globe. ſpoken by the Dalmatians, by the inhabit the Danubian provinces, by the Poles, B ans, and Ruſſians. The word *ſlab*, that is (whence the French word *eſclave*, and our *ſlave*), ſignifies *noble*, *illuſtrious*; but becau the lower ages of the Roman empire, ra titudes of theſe people were ſpread over rope in the quality of ſlaves, that word c denote the ſervile tribe by way of diſtinct the ſame manner as the words *Geta*, *Dacus Syrus*, did among the Greeks at a more ea riod.

"The SLAVI dwelt originally on the b the Boryſthenes, now the Dnieper. They a tribe of the European Sarmatians who cient times inhabited an immenſe tract of try, bounded on the W. by the Viſtula, Weiſel; on the SE. by the Euxine Sea, th phorus Cimmerius, the Palus Mœotis, a Tanais or Don, which divides Europe from In this vaſt tract of country, which at preſen prehends Poland, Ruſſia, and a great part of tary, there dwelt in ancient times many cu able tribes; among whom were the ROXO now the RUSSIANS, and the Slavi.

"The Slavi gradually advanced toward Danube; and in the reign of Juſtinian having ſed that river, they made themſelves maſt that part of Illyricum which lies betwee Drave and the Save, and is to this day from called *Sclavonia*. Theſe barbarians by de over-ran Dalmatia, Liburnia, the weſtern pa Macedonia, Epirus; and on the eaſt they ex ed their quarters all along to the W. bank o Danube, where that river falls into the Eu In all theſe countries, the Sclavonian was de impregnated with the Greek, as the barbaria vaders mingled with the aborigines, who ſp corrupt dialect of that language.

"The POLES are the genuine deſcendan

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ic ancient SARMATÆ, and ſpeak a dialect of
ir language, but much adulterated with La-
n words, in conſequence of the attachment the
olanders have long profeſſed to the Roman
ngue. The *Sileſians* and *Bohemians* have cor-
pted their dialects in the ſame manner. In thoſe
untries, then, we are not to ſearch for the ge-
ine remains of the ancient Sarmatian.

"The modern RUSSIANS, formerly the *Rhox-*
i or Roxolani, are the poſterity of the Sarmatæ,
d a branch of the Slavi: they inhabit a part of
e country which that people poſſeſſed before
ey fell into the Roman provinces; they ſpeak
e ſame language, and wear the ſame dreſs; for,
the hiſtorical pillar at Conſtantinople, the Sela-
mians are dreſſed like the Ruſſian boors. If
en the Slavi are Sarmatæ, the Ruſſians muſt of
urſe be the deſcendants of the ſame people.
ey were long a ſequeſtered people, altoge-
r unconnected with the other nations of Eu-
pe. They were ſtrangers to commerce, inhoſ-
itable to ſtrangers, tenacious of ancient uſages,
verſe to improvements of every kind, wonder-
y proud of their imaginary importance; and,
a word, a race of people, juſt one degree a-
ve abſolute ſavagiſm. A people of this cha-
acter are, for the moſt part, enemies to innova-
ion; and if we may believe the Ruſſian hiſtori-
s, no nation was ever more averſe to innova-
on than they. From the ninth century, when
ey embraced Chriſtianity, it does not appear
at they moved one ſtep towards civilization,
ll Peter the Great, only a century ago, in conſe-
uence of his deſpotic authority, compelled them
adopt the manners and cuſtoms of their more
ilized neighbours.

"We may then conclude, that the Ruſſians
ve as little change in their language during that
riod, as they did in their dreſs, habits, and
anner of living. Whatever language they ſpoke
the ninth century, the ſame they employed at
e beginning of the 18th. They were, indeed,
cording to *Appian de bel. Mithrid.* once con-
ered by Diophantus, one of Mithridates's ge-
rals; but that conqueſt was for a moment on-
y. They were likewiſe invaded, and their coun-
try over-run, by Tamerlane; but this invaſion
me like a torrent from the mountains, which
ads deſtation far and wide while it rages,
t makes little alteration on the face of the
untry.

"Upon ſome occaſions they made incurſions
on the Roman empire; but made no permanent
tlements. On the whole, we take the Ruſſians
be been, with reſpect to their language, in
e ſame predicament with the Highlanders and
anders of Scotland, who, according to the ge-
al opinion, have preſerved the Celtic dialect
re and entire, in conſequence of their having
ver mingled with foreigners.

"From this deduction we may infer two things;
t, that the Ruſſian language is the genuine
lavonian; and, ſecondly, that the latter is the
me, or nearly the ſame, with the ancient *Sar-*
atian. In the Ruſſian, there are found a great
umber of words reſembling the old ſimple roots
f the Greek both in ſound and ſignification; its
grammatical genius is nearly the ſame: and we
are informed by the very beſt authority, that there
is in this language a tranſlation of Epictetus, in
which there are whole pages, in both original and
tranſlation, without one ſingle tranſpoſition. M.
Leveque, who has publiſhed a tranſlation of a
hiſtory of Ruſſia, is ſo entirely convinced of the
ſtrict analogy between the ancient Greek and the
modern Ruſſe, that he is poſitive that the former
is derived from the latter. M. Freret, a very
learned French academician is clearly of the ſame
opinion. We are, however, perſuaded that this
opinion is ill founded. We rather imagine, that
thoſe coincidences ariſe from the relics of the pri-
mitive language of mankind; veſtiges of which
are to be found almoſt in every tongue now ex-
iſting.

"We have found a very ſtrong reſemblance be-
tween the Ruſſian and many oriental words, eſ-
pecially Hebrew, Chaldean, and old Perſian of
which we could produce ſeveral inſtances. The
Sarmatæ were divided into two great nations, the
Aſiatic and European; the former extended very
far eaſtward, behind the mountain Caucaſus, the
northern ſhore of the Euxine Sea, &c. Theſe,
we may believe, derived their language from the
original tongue long before the Greek language
exiſted. This, in compariſon of the Hebrew,
Phœnician, Egyptian, Arabian, Chaldean, &c.
was but of yeſterday. The Greek was a late com-
poſition of many different dialects, incorporated
with the jargon of the aboriginal Ionim. The Sa-
matian, on the contrary, was the tongue of a
great and populous nation, civilized long before
the Greeks began to emerge from a ſtate of ſava-
giſm. We are, therefore, by no means diſpoſed
to allow, either that the Greek is derived from
the Ruſſian, or the Ruſſian from the Greek. We
believe there is equal reaſon for this concluſion,
that the Abbé Pezron and M. Gebelin pretend to
have diſcovered, to ſupport their poſition that the
Greek is derived from the Celtic. Certain it is,
that the reſemblance among the oriental lan-
guages, of which we take the Sarmatian to have
been one, is ſo palpable, that any perſon of a mo-
derate capacity, who is perfectly maſter of the one,
will find little difficulty in acquiring any of the o-
ther. If, therefore, the coincidence between the
Greek and Ruſſian ſhould actually exiſt, we think
this circumſtance will not authenticate the ſup-
poſition, that either of the two is derived from
the other.

"In the courſe of this argument, we all along
ſuppoſe, that the Sclavonian, of which we think
the Ruſſian is the moſt genuine remain, is the ſame
with the old Sarmatian. We ſhall now hazard
a conjecture with reſpect to the ſyntaxical coin-
cidence of that language with the Greek. As the
Ruſſians were ſavages, there is no probability that
they were acquainted with letters and alphabeti-
cal writing, till they acquired that art by inter-
courſe with their neighbours. It is certain, that
few nations had made leſs proficiency in the fine
arts; there is little appearance of their having
learned this art prior to their converſion to Chri-
ſtianity. Certain it is, that the Slavi, who ſettled
in Dalmatia, Illyria, and Liburnia, had no alpha-

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betical characters till they were furnished with them by St Jerome. The Servian character, which very nearly resembles the Greek, was invented by St Cyril; on which account the language written in that character is denominated *Churlizza*. These Sclavonic tribes knew nothing of alphabetic writing prior to the era of their conversion. The Mœsian Goths were in the same condition, till Ulphilas fabricated them a set of letters.

"If the Slavi and Goths, who resided in the neighbourhood of the Greeks and Romans, had not learned alphabetical writing prior to the era of their conversion to Christianity, it must hold *a fortiori*, that the Russians, who lived at a very great distance from those nations, knew nothing of this useful art antecedent to the period of their embracing the Christian faith.

"The Russians pretend that they were converted by St Andrew; but this is a fable. Christianity was first introduced among them in the reign of the grand Duke Wolodimar, who, marrying the daughter of the Grecian emperor Basilius, became her convert about A. D. 989. About this period, they were taught the knowledge of letters by the Grecian missionaries, who were employed in teaching them the elements of the Christian doctrines. Their alphabet consists of 31 letters, with a few obsolete additional ones; and these characters resemble those of the Greeks so exactly, that there can be no doubt of their being copied from them; though the shape of some has been somewhat altered. The Russian liturgy was copied from that of the Greeks; and the best specimen of the old Russian is the church offices for Easter, in the very words of Chrysostom, who is called by his name translated *Zlato-ustii, golden-mouthed*.

"As it is impossible that a people so dull and uninventive as the Russians originally were, could ever have fabricated a language so artificially constructed as their present dialect; and it is obvious, that, till Christianity was introduced among them by the Greeks, they could have no correspondence with that people—it must appear surprising how their language came to be fashioned so exactly according to the Greek model. The Russian letters must have been introduced into that country by the Greek missionaries. We think it probable, that those apostles, when they taught them a new religion introduced a change into the idiom of their language. If the savage converts accepted a new religion from those Grecian apostles, they might with equal submission adopt improvements in their language. Such of the natives as were admitted to the sacerdotal function must have learned the Greek language, to qualify them for performing the offices of their religion. Hence the natives, who had been admitted into holy orders, would co-operate with Grecian masters in improving the dialect of the country; which, prior to that period, must have greatly deviated from the original Sarmatian tongue."

After some farther arguments on this subject Dr Doig draws the following conclusions, which he modestly entitles *conjectures*, and, as such, submits to the learned:—"1. That the Sarmatian was a dialect of the original language of mankind. 2. That the Sclavonian was a dialect of the Sarmatian. 3. That the Russe is the most genuine unsophisticated relic of the Sclavonian and Sarmatian. 4. That the Russians had no alphabetic characters prior to the introduction of Christianity in the end of the tenth century. 5. That they were converted by Grecian missionaries. 6. That those missionaries copied their present letters from those of Greece; and in conjunction with the more enlightened natives, reduced the original unimproved Russe to its present resemblance to the Greek standard."

"The Russian language, (he adds) like others, contains 8 parts of speech, noun, pronoun, &c. Its nouns have three genders, masculine, feminine, and neuter; it has also a common gender for nouns, intimating both sexes. It has only numbers, singular and plural. Its cases are nominative, genitive, dative, accusative, vocative, *instrumental*, and *prepositive*. These cases are formed by varying the termination, as in Greek and Latin; but by placing a vowel after the word, as, we imagine, was the original practice of the Greeks. (See *Sect.* VIII.) Thus in Russe, *ruka hand*; nom. *ruka the hand*; gen. *ruki of the hand*, &c. See *Les Elem. de la Langue Russe par Carpentier*. Nouns substantive are reduced to three declensions, and adjectives make a fifth. They agree with their substantives in case, gender, and number; they have three degrees of comparison as in other languages. The comparative is formed from the feminine of the nominative singular of the positive, by changing *a* into *te*, that is, *e* in English; the superlative is made by placing *pre*, *pre*, before the positive. These are general rules; but there are some exceptions.

The numeral adjectives in Russe have three genders, and are declined. The pronouns have nothing peculiar. Verbs are comprehended in two conjugations. The moods are three; indicative, imperative, and infinitive: the future is formed by placing a particle before the indicative. Its tenses are eight in number; the present, the imperfect, the preterite simple, the preterite compound, the pluperfect, the future determinate, the future simple, the future compound. The verbs have their numbers and persons. Their other parts of speech differ little from those of other languages. Their syntax nearly resembles that of the Greek and Latin. The Russian Grammar of M. Charpentier in French (Petersburg, 1768,) appears to be a very excellent one.

"Towards the era of the subversion of the western empire, the Slavi and Sarmatæ were so blended and confounded with each other, and with the Huns and other Scythian or Tartar emigrants, that the most acute antiquarian would find it impossible to investigate their respective tongues, even their original residence or extraction. We have selected the Russe as the most genuine dialect of the old Sclavonian. And we are persuaded that the radical materials of which it is composed originated in the oriental regions. The word *Tsar*, (which we spell *Czar*,) for example, is probably the Phœnician and Chaldean *Sar* or *Sor*, *a prince*, or *grandee*. Diodorus Siculus call

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queen of the Massagetæ, who, according to Ctesias, cut off Cyrus's head, *Zarina*; which was not many years ago the general title of the empress of all the Russias. Herodotus calls the same princess *Tomyris*, which is nearly the name of the famous Timor or Tamur, the conqueror of Asia. The former seems to have been the title, and the latter the proper name, of the queen of the Massagetæ. In the old Persian or Pahlavi, the word *Gard* signifies "a city:" in Russian, *Gorad* or *Grad* intimates the very same idea: hence *Constantinople* in the Russe is called *Tsargrad* or *Tsargorad*. These are adduced as a specimen only; an able etymologist might, we believe, discover a great number.

The Sclavonian language is spoken in Epirus, the W. part of Macedonia, in Bosnia, Servia, Croatia, part of Thrace, Dalmatia, Croatia, Polonia, Bohemia, Russia, and Mingrelia in Asia, since it is frequently used in the seraglio at Constantinople. Many of the great men of Turkey understand it, and use it; and most of the janizaries, having been stationed in garrisons in the Turkish frontiers in Europe, use it as their vulgar tongue. The Hungarians, however, and the natives of Wallachia, speak a different language: but this language bears evident signatures of the Sarmatian dialect, which was the tongue of the ancient Huns. Upon the whole, the Sclavonian is by much the most extensive language in Europe, as it extends far into Asia."

SECT. XIII. *Of the* MODERN LANGUAGES.

DOIG remarks, that "if we call all the different dialects of the various nations that now inhabit the known earth, languages, the number is very great; and vain would be his ambition who should attempt to learn them, though but imperfectly. There are four, which may be called *original* or *mother* languages, and which seem to have given birth to all that are now spoken in Europe. These are the *Latin*, *Celtic*, *Gothic*, and *Sclavonian*. Not that we believe them to have descended down to us, without alteration, from the confusion of tongues at the tower of Babel. We have repeatedly declared our opinion, that there was one truly original language, from which all others are derivatives variously modified. These four languages are original only as being the immediate parents of those now spoken in EUROPE.

"From the LATIN came. 1. The *Portuguese*. 2. *Spanish*. 3. *French*. 4. *Italian*.

"From the CELTIC; 5. The *Erse*, or *Gaelic* of the Highlands of Scotland. 6. *Welsh*. 7. *Irish*. 8. *Armorican* or *Bas-Bretagne*.

"From the GOTHIC; 9. The *German*. 10. The *Saxon* or *Low German*. 11. *Dutch*. 12. *English*; in which almost all the nouns substantive are German, and many of the verbs French, Latin, and Greek; and which is enriched with the spoils of all other languages. 13. *Danish*. 14. *Norwegian*. 15. *Swedish*. 16. *Icelandic*.

"From the SCLAVONIAN; 17. The *Polonese*, or *Sarmatian*. 18. *Bohemian*. 19. *Transylvanian*. 20. *Moravian*. 21. The modern *Vandalian*, which is still spoken in Lusatia, Prussian Vandalia, &c. 22. *Croatian*. 23. *Russian* or *Muscovite*; which, as we have seen, is the purest dialect of the language.

24. The language of the *Calmucs* and *Cossacs*.

25. Thirty-two different dialects of nations who inhabit the NE. parts of Europe and Asia, and who are descended from the Tartars and Hunno-Scythians. There are polyglot tables which contain not only the alphabets, but also the principal distinct characters of all these languages.

"II. The languages at present generally spoken in ASIA are,

27. The *Turkish* and *Tartarian*, with their different dialects. 28. The *Persian*; 29. *Georgian* or *Iberian*; 30. *Albanian* or *Circassian*; 31. The *Armenian*; These 4 languages are spoken by the Greek Christians in Asia, under the patriarch of Constantinople. 32. The modern *Indian*. 33. The *Formosan*, 34. *Indostanic*, 35. *Malabarian*. 36. *Warugian*, and the 37. *Talmulic* or *Damulic*. The Danish missionaries who go to Tranquebar, print books at Hall in these 5 languages. 38. The modern *Arabic*. 39. *Tungusian*. 40. *Mungalic*. 41. The language of the *Nigarian* or *Akar Nigarian*.

42. The *Grusinic* or *Grusinian*.

43. The *Chinese*.

44. The *Japonese*.

"We have enumerated here those Asiatic languages only of which we have some knowledge in Europe, and even alphabets, grammars, or other books that can give us information concerning them. There are doubtless other tongues and dialects in those vast regions and adjacent islands; but of these we are not able to give any account.

"III. The principal languages of AFRICA are,

45. The modern *Egyptian*. 46. The *Abyssinian*. 47. The *Fetuitic*, or the language of Fetu. 48. The *Moroccan*; and,

49. The jargons of those savage nations who inhabit the desert and burning regions. 50. The people on the coast of *Barbary* speak a corrupt dialect of the Arabic. 51. The *Chilhic* language, otherwise called *Tamazeght*. 52. The *Negritian*; 53. That of *Guinea*; and 54. The language of the *Hottentots*.

"IV. The language of the native AMERICAN nations are but little known in Europe. Every one of these, though distant but a few days journey from each other, have their particular language or jargon. The language of the Mexicans and Peruvians seem to be the most regular and polished. There is also one called *Poconchi* or *Pocomana*, that is used in the bay of Honduras and toward Guntimal, the words and rules of which are most known to us. The languages of North America are in general the Algonkic, Apalachian, Mohogic, Savanahamic, Virginic, and Mexican; and in South America, the Peruvian, Caribic, the Tucumanian, and the languages used in Paraguay, Brasil, and Guiana.

"V. It would be a vain undertaking for a man of letters to attempt the study of all these languages; but it would be still more absurd to attempt an analysis of them. Some general reflections therefore must suffice. Among the modern languages of Europe, the FRENCH seems to merit great attention; as it is elegant and pleasing in itself; as it is become so general, that with it we may travel from one end of Europe to the other, without scarce having any occasion for an inter-

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greter; and as in it are to be found excellent works of every kind, both in verſe and proſe, uſeful and agreeable. There are, beſides, grammars and dictionaries of this language which give us every information concerning it, and very able maſters who teach it; eſpecially ſuch as come from thoſe parts of France where it is ſpoken correctly; for with all its advantages, the French language has this inconvenience, that it is pronounced ſcarce any where purely but at Paris, and on the banks of the Loire. The language of the court, of the great world, and of men of letters, is very different from that of the common people; and the French tongue, in general, is ſubject to great alteration. What pity it is, that the ſtyle of the great CORNEILLE and MOLIERE, ſhould already begin to be obſolete, and that it will be but a little time before the inimitable *chefs d'œuvres* of thoſe men of ſublime genius will be no longer ſeen on the ſtage! The moſt modern ſtyle of the French, however does not ſeem to be the beſt. Too much conciſeneſs, the epigrammatic point, the antitheſis, the paradox, the ſententious expreſſion, &c. diminiſh it's force; and by becoming more poliſhed and refined, it loſes much of its energy.

"VI. The GERMAN and ITALIAN languages merit likewiſe a particular application; as does the Engliſh, perhaps above all, for its many and great excellencies. (See LANGUAGE, Sect. V, VI.) Authors of great ability daily labour in improving them; and what language would not become excellent, were men of exalted talents to make conſtant uſe of it in their works?

"VII. The other languages of Europe have each their beauties and excellencies. But the greateſt difficulty in all living languages conſtantly conſiſts in the pronunciation, which it is ſcarce poſſible for any one to attain, unleſs he be born or educated in the country where it is ſpoken; and this is the only article for which a maſter is neceſſary, as it cannot be learned but by teaching or by converſation: all the reſt may be acquired by a good grammar and other books. In all languages however, the poetic ſtyle is more difficult than the proſaic: in every language we ſhould endeavour to enrich our memories with great ſtore of words and to have them ready to produce on all occaſions: in all languages it is difficult to extend our knowledge ſo far as to be able to form a critical judgment of them. All living languages are pronounced rapidly, and without dwelling on the ſyllables; almoſt all of them have articles which diſtinguiſh the genders.

"VIII. Thoſe languages that are derived from the Latin have this further advantage, that they adopt without reſtraint, and without offending the ear, Latin and Greek words and expreſſions, which by the aid of a new termination appear to be natives of the language. This privilege is forbidden the Germans, who in their beſt tranſlations dare not uſe any foreign word, unleſs it be a technical term in caſe of great neceſſity." *Encyc.*

PHI

PHILOMATHES, a lover of learning or ſcience.

PHILOMBROTUS, an archon of Athens, during whoſe government, the republic being diſtracted by factions, the regulation of the ſtate was entruſted to Solon, who, by his wiſdom and integrity brought the citizens to a right underſtanding. *Plut. in Solon.*

PHILOMEDES. See PHILOMELUS.

(1.) * PHILOMEL. } *n. ſ.* [from *Philomela*,
(1.) * PHILOMELA. } changed into a bird.] The nightingale.

When rivers rage, and rocks grow cold,
And *philomel* becometh dumb. *Shak.*

Hears the hawk, when *philomela* ſings? *Pope.*

(2.) PHILOMELA, in fabulous hiſtory, a daughter of Pandion king of Athens, and ſiſter to Procne, who had married Tereus king of Thrace. Procne, being much attached to Philomela, became melancholy till ſhe prevailed upon her huſband to go to Athens and bring her ſiſter to Thrace. Tereus obeyed, but had no ſooner obtained Pandion's permiſſion to conduct Philomela to Thrace, than he fell in love with her. He diſmiſſed the guards, offered violence to Philomela, and cut out her tongue, that ſhe might not diſcover his barbarity, and villainy. He then confined her in a lonely caſtle; and returning to Thrace, told Procne that Philomela had died by the way. On this Procne put on mourning for Philomela; but a year had ſcarcely elapſed before ſhe was informed that her ſiſter was not dead. Philomela deſcribed on a piece of tapeſtry her misfortunes and the brutality of Tereus, and privately conveyed it to Procne.

PHI

She haſtened to deliver her ſiſter from her confinement, and concerted with her meaſures for puniſhing Tereus. She murdered her ſon Itylus then in the ſixth year of his age, and ſerved him up as food before her huſband during the feaſt of Bacchus. Tereus, in the midſt of his meal called for Itylus; when Procne informed him that he was then feaſting on his fleſh, and Philomela throwing on the table the head of Itylus, confirmed him of the cruelty of the ſcene. He drew his ſword to puniſh the parricidal ſiſters, but was inſtantly changed into a hoopoe, Philomela into a nightingale, Procne into a ſwallow, and Itylus into a pheaſant. This tragedy happened at Daulis in Phocis; but Pauſanias and Strabo, who relate the ſtory, are ſilent about the transformation, and the former obſerves that Tereus, after his bloody repaſt, fled to Megara, where he killed himſelf. The inhabitants raiſed a monument to his memory, where they offered yearly ſacrifices and placed pebbles inſtead of barley. On the monument the hoopoes were firſt obſerved. Philomela and Philomela died through exceſs of grief; and as the voices of the nightingale and ſwallow are peculiarly mournful, the poets embelliſhed the fable by the ſuppoſed metamorphoſes.

PHILOMELUM, a town of Phrygia. *Cicero.*

PHILOMELUS, or, as Plutarch calls him PHILOMEDES, a general of Phocis, who plundered the temple of Apollo, at Delphi. See PHOCIS. He died A. A. C. 354.

* PHILOMOT. *adj.* [corrupted from *feuille morte*, a dead leaf.] Coloured like a dead leaf.

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One of them was blue, another yellow, and another *philomot*. *Addiſon*.

PHILONIUM, in pharmacy, a kind of ſomniferous anodyne opiate, taking its name from Philo the inventor.

To PHILONIZE, *v. n.* [*philonizo*. Lat.] To imitate the ſtyle and ſentiments of Philo. This verb, and its companion, *To* PLATONIZE, owe their derivation and exiſtence to the circumſtance of Philo, the Alexandrian Jewiſh philoſopher, having imbibed the philoſophical principles of Plato ſo thoroughly, and imitated his manner ſo cloſely, that in reading Philo's works it became proverbial ſaying, "*Aut Plato Philonizat, aut Philo Platonizat*," *i. e.* "Either Plato Philonizes or Philo Platonizes." See PHILO, N° 1.

PHILONUS, a village of Egypt. *Strabo*.

PHILOPATER, a ſirname of the 4th Ptolemy. See EGYPT, § 12; and PTOLEMY.

PHILOPŒMEN, a celebrated general of the Achæan league, born in Megalopolis, in Peloponneſus. He was no ſooner able to bear arms, than he entered among the troops which Megalopolis ſent againſt Laconia. When Cleomenes III. king of Sparta attacked Megalopolis, Philopœmen diſtinguiſhed himſelf much courage. He ſignalized himſelf no leſs at the battle of Sellaſia, where Antigonus defeated Cleomenes. Antigonus made very advantageous offers to gain him over to his intereſt; but he rejected them. He went to Crete, then engaged in war, and ſerved ſeveral years as a volunteer. There he acquired a complete knowledge of the military art. On his return home, he was appointed general of the horſe; in which command he behaved ſo well, that the Achæan horſe became famous all over Greece. He was ſoon after elected general of all the Achæan forces, when he applied himſelf to re-eſtabliſh military diſcipline among the troops of the republic, which he found in a very low condition. He made great improvements in the Achæan diſcipline; and had for months exerciſed his troops daily, when news was brought him, that Machanidas was advancing, at the head of a numerous army, to invade Achaia. Accordingly, taking the field, met the enemy in the territories of Mantinea, where a battle was fought in which he completely routed the Lacedæmonians, and killed their leader with his own hand; which happened about A. A. C. 204. But what of all raiſed the fame and reputation of Philopœmen was his joining the powerful ſtate of Lacedæmon to the Achæan commonwealth; by which means the Achæans came to eclipſe all the other ſtates of Greece. This memorable event happened in the year 191. The Lacedæmonians, delighted to ſee themſelves delivered from the oppreſſion they had long groaned under, ordered the houſe and furniture of their tyrant Nabis to be ſold; (See NABIS.) and the ſum accruing from thence, to the amount of 120 talents, to be preſented to Philopœmen, as a token of their gratitude. On this occaſion ſo great was the opinion which the Spartans had of his diſintereſtedneſs, that no one could be found who would take upon him to offer the preſent, until Timolaus was compelled by a decree. The money however he refuſed, declaring he would always be their friend without expence. About two years after this, the city of Meſſene withdrew itſelf from the Achæan league. Philopœmen attacked them; but was wounded, fell from his horſe, was taken priſoner, and poiſoned by Dinocrates, the Meſſenian general, in his 70th year, A. A. C. 183. Philopœmen drank the cup with pleaſure, when he heard from the jailer that his countrymen were victors. The Achæans, to revenge his murder, marched up to Meſſene, where Dinocrates to avoid their vengeance killed himſelf. The reſt, concerned in his murder, were ſacrificed on his tomb, and annual ſacrifices were held to his memory by the Megalopolitans. To the valour and prudence of Philopœmen, Achaia owed her glory, which upon his death declined; whence Philopœmen was called *the laſt of the Greeks*, as Brutus was afterwards ſtyled *the laſt of the Romans*.

PHILOPONUS, John, a learned grammarian and philologiſt of the 7th century, born in Alexandria. He was of ſo ſtudious a diſpoſition, that he was ſtiled the *Lover of Labour*. He publiſhed many of Ariſtotle's tracts, with learned commentaries.

* PHILOSOPHEME. *n. ſ.* [φιλοσοφημα.] Principle of reaſoning; theorem. An unuſual word.—You will learn how to addreſs yourſelf to children for their benefit, and derive ſome uſeful *philoſophemes* for your own entertainment. *Watts*.

(1.) * PHILOSOPHER. *n. ſ.* [*philoſophus*, Lat. *philoſophe*, Fr.] A man deep in knowledge, either moral or natural.—Many found in belief have been alſo great *philoſophers*. *Hooker*.—The *philoſopher* hath long ago told us, that according to the divers nature of things, ſo muſt the evidences for them be. *Wilkins*.—

They all our ſam'd *philoſophers* deſie. *Dryden*.—If the *philoſophers* by fire had been ſo wary in their obſervations and ſincere in their reports, as thoſe, who call themſelves *philoſophers*, ought to have been, our acquaintance with the bodies here about us had been yet much greater. *Locke*.—Adam, in the ſtate of innocence, came into the world a *philoſopher*. *South*.

(2.) * PHILOSOPHER'S STONE. *n. ſ.* A ſtone dreamed of by alchemiſts, which, by its touch, converts baſe metals into gold.—

That ſtone
Philoſophers in vain ſo long have ſought. *Milton*.

(3.) *The* PHILOSOPHER'S STONE was the greateſt object of alchemy, a long ſought for preparation, which, when found, was expected to convert all the true mercurial part of metal into pure gold, better than any that is dug out of mines, or perfected by the refiner's art. Some Greek writers in the 4th and 5th centuries ſpeak of this art as being *then known*; and towards the end of the 13th century, when the learning of the Eaſt had been brought hither by the Arabians, the ſame pretenſions began to ſpread through Europe. See ALCHEMY, CHEMISTRY *Index*; and TRANSMUTATION. Alchemiſts attempted to arrive at the making of gold by three methods: the firſt by ſeparation; for every metal yet known, it is affirmed, contains ſome quantity of gold; only, in moſt, the quantity is ſo little as not to defray the expence of getting it out. The 2d by maturation; for the alchemiſts think mercury is the baſe and

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and matter of all metals; that quickſilver purged from all heterogeneous bodies would be much heavier, denſer, and ſimpler, than the native quickſilver; and that by ſubtilizing, purifying, and digeſting it with much labour, and long operations, it is poſſible to convert it into pure gold. The 3d method is by tranſmutation, or by turning all metals readily into pure gold, by melting them in the fire, and caſting a little quantity of a certain preparation into the fuſed matter; upon which the feces retire, are volatilized and burnt, and carried off, and all the reſt of the maſs is turned into pure gold. That which works this change in the metals is called the *philoſopher's ſtone*. This they ſuppoſe to be a moſt ſubtile, fixed, concentrated fire, which, as ſoon as it meets with any metal, does, by a magnetic virtue, immediately unite itſelf to the mercurial body of the metal, volatilize and cleanſe off all that is impure therein, and leave nothing but a maſs of pure gold. Whether this method be poſſible or not, it is difficult to ſay, tho' we are fully perſuaded of the negative. Yet we have ſo many teſtimonies of the affirmative, from perſons who on all other occaſions ſpeak truth, that it is hard to ſay they are guilty of direct falſehood, even when they ſay that they have been maſters of the ſecret. We are told, that it is only doing that by art which nature does in many years and ages. This pretended ſecret, known afterwards by the name of *the philoſopher's ſtone* or *powder* was encouraged by four licences, granted to different projectors during the reign of Henry VI, and in ſucceeding times was patronized all over Europe.

(1.)* PHILOSOPHICAL. PHILOSOPHICK. *adj.* [*philoſophique*, Fr. from *philoſophy*.] 1. Belonging to philoſophy; ſuitible to a philoſopher; formed by philoſophy.—

The ſtoick laſt in *philoſophick* pride.
By him call'd virtue. *Milton.*

How could our chymick friends go on
To find the *philoſophick* ſtone? *Prior.*

—When the ſafety of the publick is endangered, the appearance of a *philoſophical* or affected indolence muſt ariſe either from ſtupidity or perfidiouſneſs. *Addiſon.* 2. Skilled in philoſophy.—We have our *philoſophical* perſons to make modern and familiar things ſupernatural and cauſeleſs. *Seal*—Acquaintance with God is not a ſpeculativ knowledge, built on abſtracted reaſonings abo his nature and eſſence, ſuch as *philoſophical* min often buſy themſelves in. *Atterbury.* 3. Frugal

But ſince among mankind ſo few there ar
Who will conform to *philoſophick* fare,
I'll mingle ſomething. *Dryd*

(2.) PHILOSOPHICAL EGG, among chemiſts, thin glaſs body or bubble, of the ſhape of an e with a long neck or ſtem, uſed in digeſtions.

* PHILOSOPHICALLY. *adv.* [from *philoſo cal.*] In a philoſophical manner; rationally; ly.—The law of commonweales that cut off right hand of malefactors, if *philoſophically* cuted, is impartial. *Brown.*—No man ha treated the paſſion of love with ſo much de or ſearched into the nature of it more *philo cally*, than Ovid. *Dryden.*—If natural laws once ſettled, they are never to be reverſed violate and infringe them, is the ſame as wh call miracle, and doth not ſound very *philo cally* out of the mouth of an atheiſt. *Bentley.*

PHILOSOPHIST, *n. ſ.* a lover of ſophiſt falſe reaſoning, in contradiſtinction to PHI PHER, who is a lover of true ſcience, found ſoning, and practical wiſdom.

* *To* PHILOSOPHIZE. *v. a.* [from *phil* To play the philoſopher; to reaſon like a p pher; to moralize; to ſearch into nature; quire into the cauſes of effects. We mu *philoſophize* beyond ſympathy and anti *Glanville.*—The wax *philoſophized* upon the ter, and finding out at laſt that it was b made the brick ſo hard, caſt itſelf into th *L'Eſtrange.*—Two doctors of the ſchools *philoſophizing* upon the advantages of mank bove all other creatures. *L'Eſtrange.*—So our *philoſophizing* divines have too much c the facuities of our ſouls, when they have tained, that by their force mankind has be to find out God. *Dryden.*

PHILOSOPHIZING, RULES OF. See TONIAN PHILOSOPHY, *Sect.* VI; and the fo ing article.

PHILOSOPHY.

ETYMOLOGY, DEFINITIONS, *and* OBJECTS *of* PHILOSOPHY.

PHILOSOPHY, is thus defined and illuſtrated by Dr JOHNSON:

* PHILOSOPHY. *n. ſ.* [*philoſophie*, Fr. *philoſophia*, Latin.) 1. Knowledge natural or moral.—I had never any taſte of *philoſophy*, nor inward feeling in myſelf, which for a while I did not call to my ſuccour. *Sidney.*—

Hang up *philoſophy*;
Unleſs *philoſophy* can make a Juliet,
Diſplant a town, reverſe a prince's doom,
It helps not. *Shak.*

—The progreſs you have made in *philoſophy*, hath enabled you to benefit yourſelf with what I have written. *Digby.* 2. Hypotheſis or ſyſtem upon which natural effects are explained.—We ſhal vain interpret their words by the notions of *philoſophy*, and the doctrines in our ſchools. *L* 3. Reaſoning; argumentation.—

Of good and evil much they argu'd the
Vain wiſdom all and falſe *philoſophy*.
—His deciſions are the judgment of his pa not of his reaſon, the *philoſophy* of the ſinne of the man. *Rogers.* 4. The courſe of ſci read in the ſchools.

PHILOSOPHY is derived from φιλεω *to love* σοφια, *wiſdom*, and literally ſignifies the *love of dom*. In its uſual acceptation, however, it de a ſcience, or collection of ſciences, of which univerſe is the object; and of the term thus ployed many definitions have been given. Pythagoras, philoſophy is defined ἐπιστήμη τῶν

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the knowledge of things existing;" by Cicero, after Plato, *scientia rerum divinarum et humanarum cum causis*; and by the illustrious Bacon, *interpretatio naturæ*.

According to M. CHAUVIN, the term is derived from φιλία, *desire* or *study*, and σοφία, *wisdom*; and therefore he understands the word to mean *the desire or study of wisdom*; for (says he) Pythagoras, perceiving that the application of the human mind ought rather to be called *study* than *science*, left aside the appellation of *wise* as too assuming, and took that of *philosopher*. Whether any of these definitions be sufficiently precise, and at the same time sufficiently comprehensive, may be questioned; but if philosophy in its utmost extent be capable of being adequately defined, it is not here that the definition would be given. "Explanation (says an acute writer), is the first office of a teacher; definition, if it be good, is the last of the inquirer after truth; but explanation is one thing, and definition quite another."

The principal objects of philosophy are, God, nature and man. That part of it which treats of God is called *theology*; that which treats of nature *physics* and *metaphysics*; and that which treats of man, *logic* and *ethics*.

PART I.

OF PHILOSOPHY IN GENERAL.

The present Treatise on this comprehensive science we mean only to give 1st, A view of Philosophy in general: and, 2dly, A brief view of Experimental Philosophy. In doing this, but particularly in the latter part, we shall chiefly follow the plan laid down by the ingenious and learned Prof. ROBISON of Edinburgh, and the rev. Dr GLEIG of Stirling, whose excellent treatise we shall use the freedom to quote.

SECT. I. HISTORY *of* PHILOSOPHY.

The first people, among whom philosophy was cultivated, was probably the CHALDEANS. Of Chaldean philosophy much has been said, but very little is known. Astronomy seems to have been their favourite study; and notwithstanding their extravagant assertions of the antiquity of that science, which they pretend their annals had continued thro' a period of 470,000 years, yet CALLISTHENES, upon the most minute inquiry, which he made at the desire of ARISTOTLE, found that their observations reached no further back than 1903 years, or A. A. C. 2234. Even this is a more early period, than PTOLEMY gives to their science, for he mentions no Chaldean observations prior to the era of Nabonassar, or 747 years before Christ. That they cultivated something which they called *philosophy*, at a much earlier period than this, cannot be questioned; for ARISTOTLE, on the credit of the most ancient records, speaks of the Chaldean magi as prior to the Egyptian priests, who were certainly men of learning before the time of Moses. For any other science than that of the stars, we do not read that the Chaldeans were famous; and this seems to have been cultivated by them merely as the foundation of judicial ASTROLOGY. If any credit be due to Plutarch and Vitruvius, who quote Berosus, (see BEROSUS,) it was the opinion of the Chaldean *wise men*, that an eclipse of the moon happens when that part of its body which is destitute of fire is turned towards the earth. "Their cosmogony, as given by Berosus, and preserved by Syncellus, seems to be this, that all things in the beginning consisted of darkness and water; that a divine power, dividing this humid mass, formed the world; and that the human mind is an emanation from the Divine nature.

"What particular people made the earliest figure, after the Chaldeans, in the history of philosophy, cannot be certainly known. The claim of the EGYPTIANS is probably best founded; but as their science was the immediate source of that of the Greeks, we shall defer what we have to say of it, and turn our attention from Chaldean to Indian philosophy, as it has been cultivated from a very early period by the Brachmans and Gymnosophists. We pass over Persia, because we know not of any science peculiar to that kingdom, except the doctrines of the magi, which were religious rather than philosophical; and of them the reader will find some account under the words MAGI, POLYTHESIM, and ZOROASTER.

We are certain that the Indian philosophers from whatever quarter they received their philosophy, were held in high repute at a period of very remote antiquity, since they were visited by PYTHAGORAS and other sages of ancient Greece, who travelled in pursuit of knowledge. Yet they seem to have been in that early age, as well as at present, more distinguished for the severity of their manners than for the acquisition of science. The philosophy of the Indians has indeed from the beginning been engrafted on their religious dogmas, and seems to be a compound of fanatic metaphysics and extravagant superstition, without the smallest seasoning of rational physics.

The PUNDITS, for PANDITS of Indostan who are the most learned of the BRAMINS, allow no powers whatever to matter, but introduce the Supreme Being as the immediate cause of every effect however trivial. "Brehm, *the Spirit of God*, (says one of their most reverend Bramins), is absorbed in self-contemplation. (See BRAMA.) The same is the mighty Lord, who is present in every part of space, whose omnipresence, as expressed in the *Reig-Beid* or RIGVEDA, I shall now explain. Brehm is one, and to him there is no second; such is truly Brehm. His omniscience is self inspired or self-intelligent, and its comprehension includes every possible species. To illustrate this as far as I am able; the most comprehensive of all comprehensive faculties is omniscience; and being self-inspired, it is subject to none of the accidents of mortality, *conception*, *birth*, *growth*, *decay*, or *death*; neither is it subject to passion or vice. To it the three distinctions of time, *past*, *present*, and *future*, are not. To it the three modes of being, are not. (To be awake, to sleep, and to be unconscious.) It is separated from the universe, and independent of all. This omniscience is named *Brehm*. By this omniscient Spirit the operations of God are enlivened. By this Spirit

also

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alſo the 24 powers † of nature are animated. How is this? As the eye by the ſun, as the pot by the fire, as iron by the magnet, as variety of imitations by the mimic, as fire by the fuel, as the ſhadow by the man, as duſt by the wind, as the arrow by the ſpring of the bow, and as the ſhade by the tree; ſo by this Spirit the world is endued with the powers of intellect, the powers of the will, and the powers of action: ſo that if it emanates from the heart by the channel of the ear, it cauſes the perception of ſounds; if it emanates from the heart by the channel of the ſkin, it cauſes the perception of touch; if it emanates from the heart by the channel of the eye, it cauſes the perception of viſible objects; if it emanates from the heart by the channel of the tongue, it cauſes the perception of taſte; if it emanates from the heart by the channel of the noſe, it cauſes the perception of ſmell. This alſo invigorating the five members of action, the five members of perception, the five elements, the five ſenſes, and the three diſpoſitions of the mind, &c. cauſes the creation or the annihilation of the univerſe, while itſelf beholds every thing as an indifferent ſpectator."

From this quotation, it is plain that all the motions in the univerſe, and all the perceptions of man, are, according to the Bramins, cauſed by the immediate agency of the Spirit of God, which ſeems to be here conſidered as the ſoul of the world. But it appears from ſome papers in the *Aſiatic Reſearches*, that the moſt profound of theſe oriental philoſophers, and even the authors of their ſacred books, believe not in the exiſtence of matter as a ſeparate ſubſtance. Sir W. JONES ſays they hold an opinion reſpecting it ſimilar to that of the celebrated Berkeley.

We have ſhown elſewhere (See METEMPSYCHOSIS,) that the metaphyſical doctrines of the Bramins, reſpecting the human ſoul, differ not from thoſe of PYTHAGORAS and PLATO; and that they believe it to be an emanation from the great ſoul of the world, which, after many tranſmigrations, will be finally abſorbed in its parent ſubſtance. From the Bramins believing in the ſoul of the world, not only as the *ſole agent*, but as the *immediate* cauſe of every motion in nature, we can hardly ſuppoſe them to have made any great progreſs in that ſcience, which in Europe is cultivated under the name of PHYSICS. They have no inducement to inveſtigate the laws of nature; becauſe, according to the firſt principles of their philoſophy, which, together with their religion, they believe to have been revealed from heaven, every phenomenon, however regular, or however anomalous, is produced by the voluntary act of an intelligent mind. Yet if they were acquainted with the uſe of fire-arms 4000 years ago, as Mr HALHED ſeems to believe, he who made that diſcovery muſt have had a very conſiderable knowledge of the powers of nature; for though gunpowder may have been diſcovered by accident in the Eaſt, as it certainly was in the Weſt many ages afterwards, it is difficult to conceive how mere accident could have led any man to the invention of a gun. In aſtronomy, geometry, and chronology too, they appear to have made ſome proficiency at a very early period. (See ASTRONOMY *Index*.) Their chronology and aſtronomy are indeed full of thoſe extravagant fictions, which ſeem to be eſſential to all their ſyſtems; but their calculations of eclipſes, and their computations of time, are conducted upon ſcientific principles.

But though the mathematical part of the aſtronomy of the Pundits is undoubtedly reſpectable, their phyſical notions of the univerſe are in the higheſt degree ridiculous and extravagant. In the Vedas and Puranas, writings of which no Hindoo can diſpute the divine authority, eclipſes are ſaid to be occaſioned by the intervention of the monſter *Rahu*; and the earth to be ſupported by a ſeries of animals. "They ſuppoſe (ſays Halhed) that there are 14 ſpheres, ſeven below and ſix above the earth. The ſeven inferior worlds are ſaid to be altogether inhabited by an infinite variety of ſerpents, deſcribed in every monſtrous figure that the imagination can ſuggeſt. The firſt ſphere above the earth is the immediate vault of the viſible heavens, in which the ſun, moon, and ſtars, are placed. The 2d is the firſt paradiſe, the general receptacle of thoſe who merit a removal from the lower earth. The 3d and 4th are inhabited by the ſouls of thoſe men who, by the practice of virtue and dint of prayer, have acquired an extraordinary degree of ſanctity. The 5th is the reward of thoſe who have all their lives performed ſome wonderful act of penance and mortification, or who have died martyrs for the religion. The higheſt ſphere is the reſidence of Brahma and his particular favourites, ſuch as thoſe men who have never uttered a falſehood during their whole lives, and thoſe women who have voluntarily burned themſelves with their huſbands. All theſe are abſorbed in the divine eſſence." On ethics, the Hindoos have no ſyſtem that can be called *philoſophy*. Their duties moral, civil, and religious, are all laid down in the *Vedas* and *Shaſters*: and enjoined by what they believe to be divine authority, which ſuperſedes all reaſoning concerning their fitneſs or utility.

Of the ancient philoſophy of the Arabians and Chineſe nothing certain can be ſaid; and the narrow limits of ſuch an abſtract as this, do not admit of our mentioning the conjectures of the learned, which contradict each other, and are equally groundleſs. There is indeed ſufficient evidence, that both nations were at a very early period obſervers of the ſtars; and that the Chineſe had even a theory by which they foretold eclipſes; (ſee ASTRONOMY, *Index*.) but there is reaſon to believe that the Arabians, like other people in their circumſtances, were nothing more than judicial aſtrologers, who poſſeſſed not the ſmalleſt portion of aſtronomical ſcience. Hiſtory makes mention of their magi, whilſt later writers tell us, that they were famous for their ingenuity

† *The 24 powers of nature, according to the Bramins, are the five elements* fire, air, earth, water, akaſh *(a kind of ſubtile æther); the five members of action, the* hand, foot, tongue, anus, *and* male organ of generation; *the five organs of perception, the* ear, eye, noſe, mouth, *and* ſkin: *the five ſenſes, or they diſtinguiſh from the organs of ſenſation; the three diſpoſitions of the mind,* deſire, paſſion, *and* equillity; *and the power of* conſciouſneſs.

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in solving enigmatical questions, and for their skill in the arts of divination: but the authors of Greece are silent concerning their philosophy; and there is not an Arabian book of greater antiquity than the Koran extant. (See PHILOLOGY, Sect. III.)

We therefore pass to the PHOENICIANS, whose commercial celebrity has induced many learned men to allow them great credit for early science. If it be true, as seems probable, that the ships of this nation had doubled the Cape, and almost encompassed the peninsula of Africa long before the era of Solomon, we cannot doubt but that the Phœnicians had made great proficiency in navigation and astronomy, at a period of very remote antiquity. Nor were these the only sciences cultivated by that ancient people: *Mosthus* or *Mochus* the Phœnician, who, according to Strabo, flourished before the Trojan war, was the author of the atomic philosophy, afterwards adopted by Leucippus, Democritus, and others among the Greeks; and it was with some of the successors of this sage that Pythagoras, as Jamblichus tells us, conversed at Sidon, and from them received his doctrine of numbers. (See PYTHAGORAS.) Another proof of the early progress of the Phœnicians in philosophy may be found in the fragments of their historian Sanchoniatho, which have been preserved by Eusebius. (See SANCHONIATHO.) This ancient writer teaches, that, according to the *cosmogonia* of his country, all things arose at first from the necessary agency of anactive principle, upon a passive chaotic mass which he calls *mot*. This chaos Cudworth thinks was the same with the elementary *water* of Thales, who was also of Phœnician extraction; but Mosheim justly observes, that it is rather *dark air*, since Philo translates it σκότος ὀμιχλῶδες. Besides Mochus and Sanchoniatho, CADMUS, who introduced letters into Greece, may undoubtedly be reckoned a philosopher. (See PHILOLOGY, Sect. IV.) Several other Phœnician philosophers are mentioned by Strabo: but as they flourished at a later period, and philosophized after the systematic mode of the Greeks, they are not properly under our notice. We pass on therefore to the philosophy of Egypt.

The Greeks confess, that all their learning and wisdom was derived from the EGYPTIANS, either imported immediately by their own philosophers, or brought through Phœnicia by the sages of the east; and we know from higher authority than the histories of Greece, that at a period so remote as the birth of Moses, the wisdom of the Egyptians was proverbially famous. Yet the history of Egyptian learning and philosophy, though men of the first eminence both ancient and modern have bestowed much pains in attempts to elucidate it, still remains involved in clouds of uncertainty. That they had some knowledge of physiology, arithmetic, geometry, and astronomy, are facts which cannot be questioned; but there is reason to believe, that even these sciences were in Egypt pushed no farther than to the uses of life. That they believed in the existence of incorporeal substances is certain; because Herodotus assures us, that they were the first asserters of the immortality, pre-existence, and transmigration of human souls, which they could not have been without holding those souls to be at least *incorporeal*, if not *immaterial*. The author of Egyptian learning is generally acknowledged to have been THOTH, *Theut*, or *Taaut*, called by the Greeks HERMES, and by the Romans MERCURY; but of this personage very little is known. (See these articles.) Plato says that Thoth was the inventor of letters; and lest we should suppose that by those letters nothing more is meant than picture writing or symbolical hieroglyphics, it is added, that he distinguished between *vowels* and *consonants*, determining the number of each. The same philosopher attributes to Thoth the invention of *arithmetic*, *geometry*, *astronomy*, and *hieroglyphic* learning.

The art of ALCHYMY has been said to have been known by the ancient Egyptians; and from HERMES, the author of the Egyptian philosophy, it has been called the *Hermetic art*. But though this is unquestionably a fiction, there is evidence that they were possessed of one art, which is even yet a *desideratum* in the practice of chemistry; viz. the art of rendering gold potable, which Moses evidently possessed. (See CALF, GOLDEN, and Exod. xxii, 20.) When the intercourse between the Egyptians and Greeks first commenced, the wisdom of the former people consisted chiefly in the science of legislation and civil policy, and that the philosopher, the divine, the legislator, and the poet, were all united in the same person. Their cosmogony differed little from that of the Phœnicians. They held that the world was produced from chaos by the energy of an intelligent principle; and they likewise conceived that there is in nature a continual tendency towards dissolution. In Plato's Timæus, an Egyptian priest is introduced describing the destruction of the world, and asserting that it will be effected by means of water and fire. They conceived that the universe undergoes a periodical conflagration; after which all things are restored to their original form, to pass again through a similar succession of changes.

"Of preceptive doctrine" (says Dr ENFIELD, in his *Hist. of Philos.*) "the Egyptians had two kinds, the one sacred, the other vulgar. The former, which respected the ceremonies of religion and the duties of the priests, was doubtless written in the sacred books of Hermes, but was too carefully concealed to pass down to posterity. The latter consisted of maxims and rules of virtue, prudence, or policy. Diodorus Siculus relates many particulars concerning the laws, customs, and manners of the Egyptians; whence it appears that superstition mingled with and corrupted their notions of morals. It is in vain to look for accurate principles of ethics among an ignorant and superstitious people. And that the ancient Egyptians merited this character is evident from this single circumstance, that they suffered themselves to be deceived by impostors, particularly by the professors of the fanciful art of astrology." See EGYPT, MYSTERIES, MYTHOLOGY, &c.

"From Egypt and Phœnicia (says Dr ROBISON and GLEIG,) philosophy passed into GREECE; where it was long taught without system, as in the countries from which it was derived. Phoroneus, Cecrops, Cadmus, and Orpheus, were among the earliest instructors of the Greeks; and they inculcated

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cated Egyptian and Phœnician doctrines in detached maxims, and enforced them, not by ſtrength of argument, but by the authority of tradition. Their coſmogonies were wholly Phœnician or Egyptian diſguiſed under Grecian names; and they taught a future ſtate of rewards and puniſhments. The planets and the moon, Orpheus conceived to be habitable worlds, and the ſtars to be fiery bodies like the ſun: but he taught that they are all animated by divinities; an opinion which prevailed both in Egypt and the eaſt: and it does not appear that he gave any other proof of his doctrines, than a confident aſſertion, that they were derived from ſome god. See ORPHEUS.

"Hitherto we have ſeen philoſophy in its ſtate of infancy and childhood, conſiſting only of a collection of ſententious maxims and traditionary opinions; but among the Greeks, an ingenious and penetrating people, it ſoon aſſumed the form of profound ſpeculation and ſyſtematic reaſoning. Two eminent philoſophers aroſe nearly at the ſame period, who may be conſidered as the parents not only of Grecian ſcience, but of almoſt all the ſcience cultivated in Europe, prior to the era of the great Lord Verulam: Theſe were THALES and PYTHAGORAS; of whom the former founded the Ionic ſchool, and the latter the Italic: from which two ſprung the various ſects into which the Greek philoſophers were afterwards divided. A bare enumeration of theſe ſects is all that our limits will admit of; and we ſhall give it in the perſpicuous language and juſt arrangement of Dr ENFIELD, referring our readers for a fuller account than we can give of their reſpective merits to his abridged tranſlation of Brucker's hiſtory.

I. "Of the IONIC SCHOOL were, 1. The Ionic ſect proper, whoſe founder THALES had as his ſucceſſors Anaximenes, Anaxagoras, Diogenes, Apolloniates, and Archelaus. 2. The SOCRATIC ſchool, founded by SOCRATES, the principal of whoſe diſciples were Xenophon, Æſchines, Cimon, Cebes, Ariſtippus, Phædo, Euclid, Plato, Antiſthenes, Critias, and Alcibiades. 3. The CYRENAIC ſect, of which Ariſtippus was the author: his followers, were, his daughter Arete, Hegeſias, Anicerris, Theodorus, and Bion. 4. The MEGARIC or Eriſtic ſect, formed by EUCLID of Megara; to whom ſucceeded Eubulides, Diodorus, and Stilpo, famous for their logical ſubtlety. 5. The ELIAC or Eretriæ ſchool, raiſed by Phædo of Elis, who, though he cloſely adhered to the doctrine of Socrates, gave name to his ſchool. His ſucceſſors were Pliſtanus and Menedemus; the latter of whom, being a native of Eretria, transferred the ſchool and name to his own country. 6. The ACADEMIC ſect, of which PLATO was the founder. After his death, many of his diſciples deviating from his doctrine, the ſchool was divided into the old, new, and middle academies. 7. The PERIPATETIC ſect, founded by Ariſtotle, whoſe ſucceſſors in the Lyceum were Theophraſtus, Strato, Lycon, Ariſto, Critolaus, and Diodorus. Among the Peripatetics, beſides thoſe who occupied the chair, were alſo Dicæarchus, Eudemus, and Demetrius Phalereus. 8. The CYNIC ſect, of which the author was Antiſthenes, whom DIOGENES, Oneſicritus, Crates, Metrocles, Menipus, and Menedemus, ſucceeded. In the liſt of Cynic philoſophers muſt alſo be reckoned Hipparchus, the wife of Crates. 9. The STOIC ſect, of which ZENO was the founder. His ſucceſſors in the porch were Perſæus, Ariſto of Chios, Herillus, Sphærus, Cleanthes, Chryſippus, Zeno of Tarſus, Diogenes the Babylonian, Antipater, Panætius, and Poſidonius.

II. "Of the ITALIC SCHOOL were, 1. The Italic ſect proper: it was founded by PYTHAGORAS, diſciple of Pherecydes. The followers of Pythagoras were Ariſtæus, Mneſarchus, Alcmæon, Hiphantus, Hippo, Empedocles, Epicharmus, Ocellus, Timæus, Archytas, Hippaſus, Philolaus, and Eudoxus. 2. The Eleatic ſect, of which Xenophanes was the author: his ſucceſſors, Parmenides, Meliſſus, Zeno belonged to the metaphyſical claſs of this ſect; Leucippus, Democritus, Protagoras, Diagoras, and Anaxarchus, to the phyſical. 3. The Heracliteän ſect, which was founded by Heraclitus, and ſoon afterwards expired: Anaxagoras and Hippocrates philoſophized after the manner of Heraclitus, and other philoſophers borrowed freely from his ſyſtem. 4. The EPICUREAN ſect, a branch of the Eleatic, had EPICURUS for its author; among whoſe followers were Metrodorus, Polyænus, Hermachus, Polyſtratus, Baſilides, and Protarchus. 5. The Pyrrhonic or *Sceptic* ſect, parent of which was Pyrrho: his doctrine was taught by Timon the Phliaſian; and after a long interval was continued by Ptolemy a Cyrenian and at Alexandria by Æneſidemus."

Of the peculiar doctrines of theſe ſects the reader will in this work find a ſhort account, either in the lives of their reſpective founders, or under the names of the ſects themſelves. All the mathematical philoſophers, however, purſued their inquiries into nature by nearly the ſame method. Of their philoſophy as well as of ours, the object is verſe, with all that it contains, was the vaſt object; but the individual things which compoſe the verſe are infinite in number and ever changing, and therefore, according to an eſtabliſhed maxim of theirs, incapable of being the ſubjects of ſcience. To reduce this infinitude, and to bring thoſe fleeting beings, they eſtabliſhed certain finite arrangements or claſſes, to ſome of which every thing paſt, preſent, or to come, might be referred; and having aſcertained, as they thought, all that could be affirmed or denied of theſe claſſes, they proved, by a very ſhort proceſs of ſyllogiſtic reaſoning, that what is true of the claſs muſt be true of every individual comprehended under it. The moſt celebrated of theſe arrangements is that which is known by the name of CATEGORIES, which Mr Harris thinks at leaſt as old as the time of Pythagoras, and to the forming of which a mind of his kind would, in his opinion, be neceſſarily led by the following conſiderations: Every ſubject of human thought is either *ſubſtance* or *attribute*. *Subſtance* and *attribute* may each of them be ſubdivided into the different characters of *univerſal* and *particular*. Hence there ariſes a quadruple arrangement of things into *ſubſtance univerſal*, *ſubſtance particular*; into *attribute univerſal* and *attribute particular*; to ſome one of which ſeveral only our words and ideas, but every individual that immenſe multitude of things which compoſe the univerſe, may be reduced. This arrangement

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however, the learned author thinks too limited; and he is of opinion, that, by attending to the substances with which they were surrounded, the Grecian schools must soon have distinguished between the attributes *essential* to all substances, and those which are only *circumstantial*; between the attributes proper to *natural* substances or bodies, and those which are peculiar to *intelligible* substances or minds. He likewise thinks, that the *time* and *place* of the existence of substances not present, must soon have attracted their attention; that in considering the place of this or that substance, they could hardly avoid thinking of its *position* or *situation*. He is of opinion, that the subduction of one substance upon another would probably suggest the idea of *cloathing* or *habit*, that the variety of *co-existing substances* and *attributes* would discover to them another attribute, that of *relation*. Instead therefore of confining themselves to the simple division of *substance* and *attribute*, they divided *attribute* itself into nine distinct sorts, some *essential* and others *circumstantial*; these by setting substance at their head, made the *comprehensive* and *universal genera*, called, with reference to their Greek name, *categories*, and with reference to their Latin name, *predicaments*. These categories are, SUBSTANCE, QUALITY, QUANTITY, RELATION, ACTION, PASSION, WHEN, WHERE, SITUATION, and HABIT; which, according to the dogmatic philosophy of the Greeks, comprehend all human science and every subject of human thought. *History*, natural and civil, springs, says Bacon, out of SUBSTANCE; *mathematics* out of QUANTITY; *optics* out of QUALITY and QUANTITY; *medicine* out of the *same*; *astronomy* out of QUANTITY and MOTION, *music* and *mechanics* out of the *same*; *painting* out of QUALITY and SITE; *cosmography* out of RELATION; *chronology* out of WHEN; *architecture*; *geography* out of WHERE; (or PLACE;) *gravity*, *magnetism*, and *attraction*, out of ACTION and PASSION; and so in other instances.

To these categories, considered as a mere arrangement of science, we are not inclined to make many objections. The arrangement is certainly incomplete: but this is a matter of comparatively small importance; for a complete arrangement of science cannot, we believe, be formed. The greatest objection to the categories arises from the use that was made of them by almost every philosopher of the Grecian schools; for those sages having reduced the objects of all human science to certain general heads or general terms, instead of applying themselves to inquire by a painful induction into the nature and properties of the real objects before them, employed their time in considering what could be predicated of *substance* in general, of this or that *quality*, *quantity*, *relation*, or the abstract: and they soon found, that of these general conceptions as the *categories* there are five *predicables* or classes of *predicates* in nature. The first class is that in which the *predicate* is the *genus* of the *subject*; the 2d, that in which it is the *species* of the *subject*; the 3d, is when the *predicate* is the *specific difference* of the *subject*; the 4th, when it is a *property* of the *subject*; and the 5th, when it is something *accidental* to the *subject*. (See LOGIC, *Part* II. *Sect.* II. and III.) Having proceeded thus far in their system, they had nothing to do with individuals, but to arrange them under their proper categories, which was commonly done in a very arbitrary manner; and then, with the formality of a syllogism, to predicate of each the predicable of the genus or species to which it belonged. But by this method of proceeding, it is obvious that no progress whatever could be made in physical, metaphysical, or ethical science; for if the individual truly belongs to the category under which it is arranged, we add nothing to our stock of knowledge by affirming or denying of it what we had before affirmed or denied of the whole genus: and if it belong not to the category under which we arrange it, our syllogising will only give the appearance of proof to what must, from the nature of things, be an absolute falsehood.

"This mode of philosophizing, however, spread from Greece over the whole civilized world. It was carried by Alexander into Asia, by his successors into Egypt; and it found its way to Rome after the conquest of Greece. It was adopted by the Jews, by the Christian fathers, by the Mohametan Arabs during the caliphate, and by the schoolmen through all Europe, till its futility was exposed by Lord VERULAM. The professors of this philosophy often displayed great acuteness; but their systems were built on mere hypotheses, and supported by syllogistic wrangling. Now and then indeed a superior genius, such as Alhazen and our countryman Roger Bacon, broke through the trammels of the schools, and, regardless of the authority of the Stagyrite and his *categories*, made real discoveries in physical science, by experiments judiciously conducted on individual substances; (see BACON, N° 5; and OPTICS, *Index*.) but the science in repute still continued to be that of *Generals*.

What is properly called PHYSICS had in Europe no place in a liberal education, from the end of the 8th century to the end of the 14th. Towards the beginning of this period of darkness, the whole circle of instruction, or the *liberal arts* as they were called, consisted of two branches, the *trivium* and the *quadrivium*; of which the former comprehended *grammar*, *rhetoric*, and *dialectics*; the latter *music*, *arithmetic*, *geometry*, and *astronomy*, to which was added, about the end of the 11th century the study of a number of *metaphysical subtleties* equally useless and unintelligible. The works of the ancient Greek philosophers had been hitherto read only in imperfect Latin translations; and before the scholastic system was completely established, Plato and Aristotle had been alternately looked up to as oracles in science. The rigid schoolmen, however, universally gave the preference to Aristotle; because his analysis of *body* into *matter* and *form* is peculiarly calculated to keep in countenance the most incredible doctrine of the Romish church; (see TRANSUBSTANTIATION;) and upon the revival of Greek learning, this preference was continued after the school philosophy had begun to fall into contempt.

At last LUTHER and his associates set the minds of men free from the tyranny of ancient names, both in science and theology; and many philosophers sprung up in different countries of Europe, who professed to study nature, regardless of every authority but that of reason. Of these the most

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eminent beyond all compariſon was FRANCIS BACON, Lord VERULAM. (See BACON, N° 2.) This illuſtrious man, having read with attention the writings of the moſt celebrated ancients, and made himſelf maſter of the ſciences which were then cultivated, ſoon diſcovered the abſurdity of pretending to account for the phenomena of nature by ſyllogiſtic reaſoning from hypothetical principles; and with a boldneſs becoming a genius of the firſt order, undertook to give a new chart of human knowledge. This he did in his two admirable works, entitled, 1. *De dignitate et augmentis ſcientiarum*; and, 2. *Novum organum ſcientiarum, ſive Judicia vera de interpretatione Naturæ*. In the former of theſe works, he takes a very minute ſurvey of the whole circle of human ſcience, which he divides into three great branches, *hiſtory*, *poetry*, and *philoſophy*, correſponding to the three faculties of the mind, *memory*, *imagination*, and *reaſon*. Each of theſe general heads is ſubdivided into minuter branches, and reflections are made upon the whole, which, though we can neither copy nor abridge them, will amply reward the peruſal of the attentive reader. The purpoſe of the *Novum Organum* is to point out the proper method of interpreting nature; which the author ſhows can never be done by the logic which was then in faſhion, but only by a painful and fair induction.

This great man was no leſs an enemy to hypotheſes and preconceived opinions, which he calls *idola theatri*, than to ſyllogiſms; and ſince his days almoſt every philoſopher of eminence, except Deſcartes and his followers, (ſee CARTES, and CARTESIANS;) has profeſſed to ſtudy nature according to the method of induction, ſo accurately laid down in his *Novum Organum*. On this method a few improvements have been made; but L. Verulam muſt ſtill be conſidered as the author of that philoſophy, which is now cultivated in Europe, and which will continue to be cultivated as long as men ſhall have more regard for *facts* than for hypothetical *opinions*. Of this mode of philoſophizing we ſhall now give a ſhort but accurate view, by ſtating its objects, comparing it with that which it ſuperſeded, explaining its rules, and pointing out its uſes; and from this view it will appear, that its author ſhares with ARISTOTLE the empire of ſcience.

Sect. II. View of L. Verulam's Philosophy.

THAT unbounded object of the contemplation, curioſity and reſearches of man, the univerſe, may be conſidered in two different points of view.

It may firſt be conſidered merely as a collection of exiſtences, related to each other by means of reſemblances and diſtinctions; ſituation, ſucceſſion, and derivation, as making parts of a whole. In this view it is the ſubject of pure deſcription.

In order to acquire a knowledge of the univerſe in this point of view, we muſt enumerate all the beings in it, mention all their ſenſible qualities, and mark all theſe relations for each. But this would be labour immenſe; and when done, an undiſtinguiſhable chaos. A book containing every word of a language would only give us the materials of this language. To make it comprehenſible, it muſt be put into ſome form, which will comprehend the whole in a ſmall compaſs, and enable the mind to paſs eaſily from one word to another related to it. Of all relations among words, the moſt obvious are thoſe of reſemblance and derivation. An etymological dictionary, therefore, in which words are claſſed in conſequence of their reſemblances, and arranged by means of their derivative diſtinctions, will greatly facilitate the acquiſition of the language.

Thus too, the objects of nature around us may be claſſed according to their reſemblance, and then arranged in thoſe claſſes by particular diſtinctions. In this claſſification we proceed by our faculty of abſtracting our attention from the circumſtances in which things differ, and turning it to thoſe in which they agree. By this faculty we can only diſtribute the individuals into claſſes, but ſubdivide thoſe claſſes into orders, genera, and ſpecies. Thus a vaſt number of individuals reſembling each other in the ſingle circumſtance of compoſes the moſt extenſive KINGDOM of ANIMALS. If it be required, that they ſhall further reſemble in the circumſtance of having feathers, prodigious number of animals are excluded, and we form the inferior *claſs* of BIRDS. We can a great number of birds, by requiring a ſimilarity of web feet, and have the *order* of PALMIPEDES. If we add *lingua ciliata*, we confine attention to the *genus* of ANATES. In this manner may the whole objects of the univerſe be arranged, divided and ſubdivided, into kingdoms, claſſes, orders, genera, and ſpecies.

This claſſification and arrangement is called NATURAL HISTORY; and is the only foundation for any extenſive knowledge of nature. To the natural hiſtorian, therefore, the world is a collection of exiſtences, the ſubject of deſcriptive arrangement. His aim is threefold: 1. To obſerve with care, and deſcribe with accuracy, the various objects of the univerſe. 2. To determine and enumerate all the great claſſes of objects; to diſtribute and arrange them into all their ſubordinate claſſes through all degrees of ſubordination, till he arrive at what are only accidental varieties, which admit of no farther diſtribution; and to aſcertain with preciſion the principles of this diſtribution and arrangement, and the characteriſtics of the various aſſemblages. 3. To determine with certainty the particular group to which any propoſed INDIVIDUAL belongs.

DESCRIPTION, therefore, ARRANGEMENT, and REFERENCE, conſtitute the whole of his employment; and in this conſiſts all his ſcience.

Were the univerſe to continue unchanged, it would conſtitute the whole of our knowledge of nature: but we are witneſſes of an uninterrupted ſucceſſion of changes, and our attention is continually called to the EVENTS which are inceſſantly happening around us. Theſe form a ſet of objects vaſtly more intereſting to us than the former, being the ſources of almoſt all the pleaſures and pains we receive from external objects.

The ſtudy of the events, which happen around us, is highly intereſting, and we are ſtrongly invited to proſecute it; but they are ſo numerous and ſo multifarious, that the labour would be immenſe without ſome contrivance for abbreviating and facilitating it. The ſame help offers itſelf here

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the ſtudy of what may be called *quieſcent nature*. Events, like exiſtences, are ſuſceptible of claſſification, in conſequence of reſemblances and diſtinction; and by attention to theſe, we can acquire a very extenſive acquaintance with active nature. Our attention muſt be chiefly directed to thoſe circumſtances, in which many events reſemble each other, while they differ perhaps in a thouſand others. Then we muſt attend to their moſt general diſtinctions; then to diſtinctions of ſmaller extent, and ſo on. In this way accordingly we have advanced in our knowledge of active nature, and gradually, and by no means ſlowly, forming aſſemblages of events more and more extenſive, and diſtributing theſe with greater and greater preciſion into their different claſſes.

In deſcribing thoſe circumſtances of ſimilarity among events, and in diſtributing them according to thoſe ſimilarities, it is impoſſible to overlook the conſtancy which is obſerved in the changes of nature, in the events which are the objects of our contemplation. Events which have once been obſerved to accompany each other are obſerved always to do ſo. The riſing of the ſun is always accompanied by the light of day, and his ſetting by the darkneſs of night. Sound argument is accompanied by conviction, impulſe by motion, kindneſs by a feeling of gratitude, and the perception of good by deſire. The uniform experience of mankind informs us, that the events of nature go on in certain regular trains; and if ſometimes exceptions ſeem to contradict this general affirmation, more attentive obſervation never fails to reconcile the exception. Moſt of the ſpontaneous events of nature are very complicated; and it frequently requires great attention and penetration, to diſcover the ſimple event amidſt a croud of uneſſential circumſtances which are at once exhibited to our view. But when we ſucceed in this diſcovery, we never fail to acknowledge the perfect uniformity of the event to what has been formerly obſerved.

Hence we firmly *believe* that this uniformity *will continue*; that fire will melt wax, will burn wood, will harden clay, as we have formerly obſerved it to do; and whenever we have undoubted proofs that the circumſtances and ſituation are preciſely the ſame as in ſome former caſe, though but once obſerved, we expect with confidence that the event will alſo be the *ſame*.

Many proofs of the univerſality of this law of human thought are not neceſſary. The whole language and actions of men are inſtances of the fact. In all languages there is a mode of conſtruction uſed to expreſs this relation as diſtinct from all others, and the converſation of the moſt illiterate never confounds them. The general employment of the active and paſſive verb is regulated by it. "The tower was *demoliſhed by the ſoldiers*; the town was *overthrown by an earthquake*;" are ſentences that expreſs two relations, and no ſchool-boy will miſtake them. The diſtinction therefore is perceived or felt by all. Nor is any language without general terms to expreſs this relation, cauſe and effect. Nay, even brutes ſhow that they expect the ſame uſes of every ſubject which they formerly made of it; and without this, animals would be incapable of ſubſiſtence, and man incapable of all improvement. From this alone memory derives all its value; and even the conſtancy of natural operation would be uſeleſs, if not matched or adapted to our purpoſes by this expectation of and confidence in that conſtancy.

The reſult of all the inquiries of ingenious men, to diſcover the foundation of this irreſiſtible expectation, is "*ſuch is the conſtitution of the human mind.*" It is an *univerſal fact* in human thought; and it appears to be an *ultimate* fact, not included in any other ſtill more general. This is ſufficient for making it the foundation of true human knowledge; all of which muſt in like manner be reduced to ultimate facts in the human thought.

This perſuaſion of the conſtancy of nature, we muſt conſider as an *inſtinctive* anticipation of events ſimilar to thoſe which we have already experienced. The general analogy of nature ſhould have diſpoſed philoſophers to acquieſce in this. In no inſtance of importance to our ſafety or well being are we left to the guidance of our boaſted *reaſon*; God has given us the ſurer conduct of natural INSTINCTS. No caſe is ſo important as this: In none do we ſo much ſtand in need of a guide, which ſhall be powerful, infallible, and rapid in its deciſions. Without it we would remain incapable of all inſtruction from experience, and therefore of all improvement.

Our ſenſations are no doubt feelings of our mind. But all thoſe feelings are accompanied by an inſtinctive reference to ſomething diſtinct from the feelings themſelves. Hence ariſe our perceptions of external objects, and our very notions of this *externeity*, if we may uſe the term. In like manner, this anticipation of events, this irreſiſtible connection of the idea of fire with the idea of burning, is alſo a feeling of the mind: and this feeling is by a law of human nature referred, without reaſoning, to ſomething external as its cauſe; and, like our ſenſation, it is conſidered as a *ſign* of that external ſomething. It is like the connection of the truth of a mathematical propoſition. The conviction is the ſign or indication of this relation by which it is brought to our view. In the ſame manner, the irreſiſtible connection of ideas is interpreted as the ſenſation or ſign of a *neceſſary connection* of external things or events. Theſe are ſuppoſed to include ſomething in their nature which renders them inſeparable companions. To this bond of connection between external things we give the name of CAUSATION. All our knowledge of this relation of cauſe and effect, is the knowledge or conſciouſneſs of what paſſes in our own minds, during the contemplation of the phenomena of nature. If we adhere to this view of it, and put this branch of knowledge on the ſame footing with thoſe called the *abſtract ſciences*, conſidering only the *relations* of ideas, we ſhall acquire *demonſtrative ſcience*. Any other view of the matter will lead us into inextricable mazes of uncertainty and error.

Thus the natural procedure of our faculty of abſtraction and arrangement, to acquire a more ſpeedy and comprehenſive knowledge of natural events, preſents them to our view in another form. We not only ſee them as *ſimilar* events, but as events naturally and neceſſarily *conjoined*. And the expreſſion of *reſemblance* among events is alſo

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alſo an expreſſion of *concomitancy*; and this arrangement of events in conſequence of their reſemblance is in fact the *diſcovery* of thoſe accompaniments. The trains of natural appearances being conſidered as the appointments of the Author of Nature, has occaſioned them to be conſidered alſo as conſequences of *laws* impoſed on his works by their great author, and every thing is ſaid to be regulated by fixed laws.

The philoſopher as well as the theologian, who believes in the exiſtence and ſuperintendance of God, knows that the conſtant accompaniment of events is the conſequence of laws, which the great Author and Governor of the univerſe has impoſed on his works. There is alſo a great reſemblance between the expreſſion *natural law* and *grammatical rule*. Rule in grammar expreſſes merely a generality of *fact*, whether of flexion or conſtruction. In like manner, a LAW OF NATURE is to the philoſopher nothing but the expreſſion of a generality of fact. A natural or phyſical law is a generally obſerved fact; and whenever we treat any ſubject as a generally obſerved fact, we treat it phyſically. It is a phyſical law of the underſtanding that argument is accompanied by conviction; it is a phyſical law of the affection that diſtreſs is accompanied by pity; it is a phyſical law of the material world that impulſe is accompanied by motion. And thus we ſee that the arrangement of events, or the diſcovery of thoſe general points of reſemblance, is in fact the diſcovery of the laws of nature; and one of the greateſt and moſt important is, that the laws of nature are conſtant.

This view of the univerſe is incomparably more intereſting and important than that which is taken by the natural hiſtorian; contemplating every thing that is of value to us, and, in ſhort, the whole life and movement of the univerſe. This ſtudy, therefore, has been dignified with the name of PHILOSOPHY and of SCIENCE; and natural hiſtory has been conſidered as of importance only in ſo far as it is conducive to the ſucceſsful proſecution of philoſophy.

The philoſopher claims a ſuperiority on another account: he conſiders himſelf as employed in the diſcovery of cauſes, and that it is by the diſcovery of theſe relations that he communicates to the world ſuch important knowledge. Philoſophy, he ſays, is the ſcience of cauſes. The vulgar are contented to conſider the prior of two inſeparably conjoined events as the cauſe of the other; the ſtroke on a bell, for inſtance, as the cauſe of ſound. But it has been clearly diſcovered by the philoſopher, that, between the blow on the bell and the ſenſation of ſound, there are interpoſed a long train of events. The blow ſets the bell a trembling; this agitates the air in contact with the bell; this agitates the air immediately beyond it; and thus between the bell and the ear may be interpoſed a numberleſs ſeries of events, and as many more between the firſt impreſſion on the ear and that laſt impreſſion on the nerve by which the mind is affected. He can no longer therefore follow the nomenclature of the vulgar. Which of the events of this train therefore is the cauſe of the ſenſation? None of them: It is that *ſomething* which inſeparably connects any two of them, and conſtitutes their bond of union. Theſe cauſes he conſiders as reſiding in one or both of the connected objects: diverſities in this reſpect muſt therefore conſtitute the moſt important diſtinctions between them. They are therefore with great propriety called the *qualities*, the *properties*, of theſe reſpective ſubjects. As the events, from which we infer the exiſtence of theſe qualities of things, reſemble in many reſpects ſuch events as are the conſequences of the exertion of our own powers, theſe qualities are frequently denominated POWERS, forces, energies. Thus, from the inſtance of the ſound of a bell, we infer the power of impulſe, elaſticity, nervous irritability, and animal ſenſibility.

From this neceſſary connection between the objects around us, we not only infer the poſterior event from the prior, or, in common language, the effect from the cauſe, but we alſo infer the prior from the poſterior, the cauſe from the effect. We not only expect that the preſence of a magnet will be followed by certain motions in iron filings, but when we obſerve ſuch motions, we infer the preſence and agency of a magnet. Joy is inferred from merryment, poiſon from ſudden or unaccountable death, fire from ſmoke, and impulſe from motion. And thus the appearances of the univerſe are the indications of the powers of the objects in it. As all our knowledge of the ſentiments of others is derived from our confidence in their veracity; ſo all our knowledge of nature is derived from our confidence in the conſtancy of her operations. A credulity in our neighbour's veracity, reſulting from that law of our mental conſtitution by which we ſpeak, conducts us in the one caſe; and the conſtancy of nature, by which we infer general laws from particular facts, conducts us in the other. It is by the ſucceſsful ſtudy of this language of nature that we derive uſeful knowledge. The knowledge of the influence of motives on the mind of man enables the ſtateſman to govern kingdoms, and the knowledge of the powers of magnetiſm enables the mariner to pilot a ſhip through the pathleſs ocean.

LORD MONBODDO, in his *ancient Metaphyſics*, ſays, that the ancients were *philoſophers*, employed in the *diſcovery of cauſes*, and that the moderns are only *natural hiſtorians*, contenting themſelves with obſerving the laws of nature, but paying no *attention* to the *cauſes* of things. Ariſtotle's *profeſſed* aim, indeed, in his moſt celebrated writings, is *the inveſtigation of cauſes*; and in his lordſhip's opinion, he has been ſo ſucceſsful, that he has hardly left any employment for his ſucceſſors beſides that of *commenting* upon his works. Newton makes no ſuch pretenſions; his profeſſed aim is merely *to inveſtigate the general laws* of the planetary motions, and to apply theſe to the explanation of particular phenomena. He has diſcovered but *one law*, and has enabled us to explain the phenomena comprehended in it alone. But his inveſtigation has been *complete*; and he has diſcovered, beyond all poſſibility of contradiction, a *fact* which is uniform through the whole extent of the ſolar ſyſtem; namely, that every body, nay that every particle in it, is continually DEFLECTED toward

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toward every other body; and that this deflection is, in every inſtance, proportional to the quantity of matter in that body toward which the deflection is directed, and to the reciprocal of the ſquare of the diſtance from it. He has therefore diſcovered a phyſical law of immenſe extent. Nor has he been leſs ſucceſsful in the explanation of particular phenomena. Of this there cannot be given a better inſtance than the explanation of the lunar motions from the theory of gravity begun by Newton "*Mathefi ſua facem praferente*;" and now brought to ſuch a degree of perfection, that if the moon's place be computed from it for any moment within the period of 2000 years back, it will not be found to differ from the place on which ſhe was actually obſerved by the 100dth part of her own breadth.

We may challenge the ARISTOTELIANS to name any one *cauſe* which has really been *diſcovered* by their great maſter, whether in the operations of mind or of body. They muſt not adduce inveſtigation of any natural law in which he ſometimes ſucceeded. With ſtill greater confidence may we challenge them to produce any tolerable inſtance of the explanation of natural phenomena either of mind or body. By *explanation* we mean an account of the production, and appreciation of all the circumſtances, ſuſceptible of a ſcrupulous compariſon with fact, and perfectly conſiſtent with it. It is here that the ſucceſs of this philoſopher's hypotheſis is moſt conſpicuous; and his followers acknowledge, that the inquiries which proceed by experiment, have not derived great aſſiſtance from Ariſtotle's philoſophy. But this, ſay they, does not ariſe from the pre-eminence of his philoſophy, but that he has ſhown that the *particular* fields of obſervation are to be cultivated only by means of experiment. But ſurely every field of *obſervation* is particular. There is no *abſtract* object of phyſical reſearch, the ſtudy of which ſhall terminate in the philoſophy of *univerſals*. There is therefore great room for ſuſpecting, that Ariſtotle and his followers have not aimed at the diſcovery of cauſes, but only at the diſcovery of natural kinds, and have *failed* in the attempt.

There ſeems here to be a previous queſtion: *Is it poſſible to diſcover a philoſophical cauſe*, that is, a thing which is neither the prior nor the poſterior of the two *immediately* adjoining events, but the bond of union, and this diſtinct from the connection itſelf? It is evident that this is an inquiry entirely experimental. It is of *human knowledge* we ſpeak. This muſt depend on the nature of the human mind. This is a matter of contingency, given to us only by experiment and obſervation. By obſerving all the feelings and operations of the mind, and claſſing and arranging them like any other object of ſcience, we diſcover the general laws of human thought and human reaſoning; and this is all the knowledge we can ever acquire of it, or of any thing elſe.

Much has been written on this ſubject. The moſt acute obſervation and ſound judgment have been employed in the ſtudy; and conſiderable progreſs has been made in pneumatology. Many laws of human thought have been obſerved, and very diſtinctly marked; and philoſophers are buſily employed, ſome of them with conſiderable ſucceſs, in the diſtribution of them into ſubordinate claſſes, ſo as to know their comparative extent, and to mark their diſtinguiſhing characters with a preciſion ſimilar to what has been attained in botany and other parts of natural hiſtory; ſo that we may hope that this ſtudy will advance like others. But in all theſe reſearches, no phenomena have occurred which look like the perception or contemplation of theſe ſeparate objects of thought, theſe philoſophical cauſes, this POWER *in abſtracto*. No philoſopher has ever pretended to ſtate ſuch an object of the mind's obſervation, or attempted to group them into claſſes. Thoſe cauſes, thoſe bonds of neceſſary union between the naturally conjoined events or objects, are not only perceived *by means* of the events alone, but are perceived ſolely *in* the events, and cannot be diſtinguiſhed from the conjunctions themſelves. They are neither the objects of ſeparate obſervation, nor the productions of memory, nor inferences drawn from reflection on the laws by which the operation of our own minds are regulated; nor can they be derived from other perceptions in the way of argumentative inference. We cannot infer the paroxyſm of terror from the appearance of impending deſtruction, nor the fall of a ſtone when not ſupported, as we infer the incommenſurability of the diagonal and ſide of a ſquare. This laſt is *implied* in the very conception or notion of a ſquare; not as a conſequence of its other properties, but as one of its eſſential attributes: and the contrary propoſition is not only falſe, but incapable of being diſtinctly conceived. This is not the caſe with the other phenomenon, or any matter of fact. The proofs, which are brought of a mathematical propoſition, are not the reaſon of its being true, but the ſteps by which this truth is brought into our view; and frequently, as in the inſtance now given, this truth is perceived, not directly, but conſequentially, by the inconceivableneſs of the contrary propoſition.

"Mr HUME derives this irreſiſtible expectation of events from the known effect of *cuſtom*, the *aſſociation of ideas*. The coreſated event is brought into the mind by this well known power of cuſtom, with that vivacity of conception which conſtitutes belief or expectation. But without inſiſting on the futility of his theory of belief, this explanation *begs* the very thing to be proved, when it aſcribes to cuſtom a *power* of any kind. It is the origin of this very power which is the ſubject in diſpute. Beſides, on the genuine principles of ſcepticiſm, this cuſtom involves an acknowledgment of paſt events, of a *ſomething* different from preſent impreſſions, which, in this *doctrine*, are the only certain exiſtences in nature: and, laſtly, it is known, that *one* clear experience is a ſufficient foundation for this unſhaken confidence and anticipation. General cuſtom can never, on Mr Hume's principles, give ſuperior vivacity to any particular idea.

"This certain nonentity of it, as a ſeparate object of obſervation, and this impoſſibility to derive this notion of neceſſary and cauſal connection between the events of the univerſe from any

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source, have induced two of the most acute philosophers of Europe, LEIBNITZ and MALEBRANCHE, to deny that there is any such connection, and to assert that the events of the universe go on in corresponding trains, but without any causal connection, just as a well-regulated clock will keep time with the motions of the heavens without any kind of dependence on them. This harmony of events was pre-established by the Author of the Universe, in subserviency to the purposes he had in view in its formation. All those purposes which are cognisable by us, may certainly be accomplished by this perfect adjustment. But without insisting on the fantastic wildness of this ingenious whim, it is enough to observe, that it also is a begging of the question, because it supposes causation when it ascribes all to the agency of the Deity.

"Thus have we searched every quarter, without being able to find a source from which to derive this perception of a necessary connection among the events of the universe, or of this confident expectation of the continuance of physical laws; and yet we are certain of the feeling, and of the persuasion, be its origin what it may: for we speak intelligibly on this subject; we speak familiarly of *cause*, *effect*, *power*, *energy*, *necessary connection*, *motives* and their *influence*, *argument* and *conviction*, *reasons* and *persuasion*, *allurements* and *emotions*, of *gravity*, *magnetism*, *irritability*, &c.; and we carry on conversations on these subjects with much entertainment and seeming instruction. Language is the expression of thought, and every word expresses some notion or conception of the mind; therefore it must be allowed, that we have such notions as are expressed by cause, power, energy. But it is here, as in many cases, we perceive a distinction without being able to express it by a definition; and that we do perceive the relation of causation as distinct from all others, and in particular as distinct from the relation of contiguity in time and place; or the relation of agent, action, and patient, must be concluded from the uniformity of language, which never confounds them except on purpose, and when it is perceived. But even here we shall find, that none of the terms used for expressing those powers of substance, which are conceived as the causes of their characteristic phenomena, really express any thing different from the phenomena themselves. Let any person try to define the terms *gravity*, *elasticity*, *sensibility*, and the like, and he will find that the definition is nothing but a description of the phenomenon itself. The words are all derivatives, most of them verbal derivatives, implying action, gravitation, &c. As the general resemblances in shape, colour, &c. are expressed by the natural historian by generic terms, so the general resemblances in event are expressed by the philosopher in generic propositions, which, in the progress of cultivation, are also abbreviated into generic terms.

"This abundantly explains the consistency of our language on this subject, both with itself and with the operations of nature, without however affording any argument for the truth of the assumption, that *causes* are the *objects* of philosophic research as separate existences; or that this supposed necessary connection is a *necessary truth*, whether supreme or subordinate. But since the perception of it has its foundation in the constitution of the human mind, it seems entitled to the name of a *first principle*. We are hardly allowed to doubt of this, when we consider the importance of it, and the care of nature to secure us in things essential to our safety and well-being, from all danger, from inattention, ignorance, or indolence, by an instinct infallible in its information and instantaneous in its decisions. "It would be like her usual care (says Hume), if this operation of the mind, by which we infer like effects from like causes, and *vice versa*, were entrusted to the fallacious deduction of our reason, which flow in its operations, appears not in any degree during the first years of infancy, and in every and period of human life is extremely liable to error. It is more conformable to her wise caution, (mark the acknowledgment,) to secure a necessary an act of the mind by some instinct blind tendency, which may be infallible and in all its operations, may discover itself at the appearance of life, and may be independent of the laboured deductions of reason. As she taught us the use of our limbs, without giving us any knowledge of the nerves and muscles which they are actuated; so she has implanted us an instinct, which carries forward the in a course conformable to that established external objects, though we be ignorant powers and forces on which this regularity depends."

"Such a knowledge (say our learned author) is quite unnecessary, and therefore causes more cognoscible by our intellectual powers colours by a man born blind: nay, whoever be at the pains to consider this matter, again to the received rules and maxims of logic find that necessary connection, or the causation, can no more be the subject of physical discussion by man, than the ultimate ture of truth. It is precisely the same absurdity or incongruity, as to propose to examine with a *microscope*. All that we can say their existence is probable, but by no means tain. But all this is indifferent to the real pation of the philosopher, and does not affect ther the certainty, the extent, or the utility the knowledge which he may acquire.

"We are now able to appreciate the high tensions of the philosopher, and his claim entific superiority. We see that this can not be founded on his object, nor his employ His object is not causes; and his discoveries nothing but the discovery of general facts physical laws; and his employment is the with that of the descriptive historian. He serves and describes with care and accuracy events of nature; and then he groups them classes, from resembling circumstances, de in the midst of many others which are dis and occasional. By gradually throwing out circumstances of resemblance, he renders his ses more extensive; by carefully marking circumstances in which the resemblance is ved, he characterises all the different classes by a comparison of these with each other, in

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spect to the number of resembling circumstances, he distributes his classes according to their generality and subordination; thus exhausting the whole assemblage, and leaving nothing unarranged but accidental varieties. In this procedure, every grouping of similar events is, *ipso facto*, discovering a physical law; and the expression of this assemblage is the expression of the physical law. And as every observation of this constancy of fact affords an opportunity for exerting the instinctive inference of natural connection between the related subjects, every such observation is the discovery of a power, property, or quality, of natural substance. This observation of event is all we know of the connection, all we know of the natural power. When the philosopher proceeds further to the arrangement of events, according to their various degrees of complication, he is making an arrangement of all natural powers according to their various degrees of subordinate influence. And thus his occupation is similar to that of the descriptive historian, classification and arrangement; and this constitutes all the science attainable by both.

Sect. III. *Of the* Employment *of the* Philosopher.

From this view, philosophy may be defined, *the knowledge of the phenomena of the universe*, to discover the *general laws* which indicate the powers of natural substances, to explain subordinate phenomena, and to improve art: Or, Philosophy is the knowledge of the phenomena of the universe, with a view to discover their causes, to explain subordinate phenomena, and to improve art. The task is undoubtedly difficult, and will exercise our noblest powers. The employment is manly, and the result important. It therefore justly merits the appellation of *philosophy*, although its objects are likewise different from those which occupy the attention of other men.

The employment of the philosopher, like that of the natural historian, is threefold; description, arrangement, and reference; but the objects are not *things* but *events*.

The description, when employed about events, is more properly termed *history*. A philosophical history of nature consists in a complete or rather enumeration and narration of facts, properly selected, cleared of all extraneous circumstances, and accurately narrated. This constitutes the materials of philosophy. We cannot give a better example of this branch of philosophical occupation than astronomy.

From the beginning of the Alexandrian school to our day, astronomers have been at immense pains in observing the heavenly bodies, to detect their true motions. This has been a work of prodigious difficulty: for the *appearances* are such as would have been exhibited although the real motions had been extremely different. Not that our senses give us false information; but we form hasty and frequently false judgments, from these informations; and call those things deceptions of sense, which are in fact errors of judgment. But the true motions have at last been discovered, and described with such accuracy, that the history may be considered as nearly complete. This is to be found in the usual systems of astronomy, where the tables contain a most accurate and synoptical account of the motion; so that we can tell with precision in what point of the heavens a planet *has been* seen at any instant that can be named. Sir Isaac Newton's Optics is such another perfect model of philosophical history, as far as it goes. This part of philosophy may be called Phenomenology.

A general knowledge of the universe may thus be easily acquired and firmly retained, by classification and arrangement; which must proceed on resemblances *observed* in the events; the subsequent arrangement must be regulated by the distinctions of which those resemblances are still susceptible. This assemblage of events into groups must be expressed. They are facts; therefore the expression must be propositions. These propositions must be what logicians call *general* or *abstract propositions*; for they express not any individual fact of the assemblage, but that circumstance in which they all resemble. Such propositions are the following; *Proof* is accompanied by *belief*; *kindness* is accompanied by *gratitude*; *impulse* is accompanied by *motion*. These are usually called *general facts*; but there are none such; every fact is *individual*. This language, however inaccurate, is very safe from misconstruction. And we may use it without scruple. These propositions are natural or physical laws; and then the detecting and marking those resemblances in event, is the investigation of physical laws; and we may denominate this employment of the philosopher Investigation.

"In the prosecution of this task, the similarities of fact will be found of various extent: and thus we form physical laws of various extent; and we find that some are subordinate to others; for the resemblance of a number of facts in one circumstance does not hinder a part of them from also resembling in another circumstance; and thus we find subordinations of fact in the same way as of quiescent qualities. And it is found here, as in natural history, that our assemblage of resembling events will be the more extensive as the number of resembling circumstances is smaller; and thus we shall have kingdoms, classes, orders, genera, and species of phenomena, which are expressed by physical laws of all those different ranks.

"This observation of physical laws is always accompanied by a reference of that uniformity of event, to a natural bond of union between the concomitant facts, which is conceived by us as the *cause* of this concomitancy; and therefore this procedure of the philosopher is considered as the discovery of those causes, or powers of natural substances, which constitute their physical relations, and may justly be called their distinguishing *qualities* or *properties*. This view of the matter gives rise to a new nomenclature. We give to those powers generic names, such as *sensibility*, *intelligence*, *irritability*, *gravity*, *elasticity*, *fluidity*, *magnetism*, &c. These terms mark resembling circumstances of events; and no other definition can be given of them but a description of these circumstances. In a few cases which have been

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the ſubjects of more painful or refined diſcuſſion, we have proceeded farther in this abbreviation of language.

"We have framed the verb *to gravitate*, and the verbal noun GRAVITATION, which purely expreſs the fact, the phenomenon; but are conceived to expreſs the *operation* or energy of the cauſe or natural power. It is of importance to keep in mind this metaphyſical remark of theſe terms; for a want of attention to the pure meaning of the words has frequently occaſioned very great miſtakes in philoſophical ſcience. We may call this part of the philoſopher's employment AITIOLOGY. We ſhall give an inſtance of its moſt ſucceſsful application to the claſs of events already adduced, as an example of philoſophic hiſtory or phenomenology.

"KEPLER, a celebrated Pruſſian aſtronomer, having maturely conſidered the phenomena recorded in the tables and obſervations of his predeceſſors, diſcovered, amidſt all the varieties of the planetary motions, three circumſtances of reſemblance, which are now known by the name of KEPLER'S LAWS." See ASTRONOMY, *Index*; and KEPLER, § 3; alſo KEPLER'S PROBLEM, § 4.

"Long after this diſcovery of Kepler, Sir ISAAC NEWTON found that theſe laws of Kepler were only particular caſes of a fact or law ſtill more general. He found that the deflections of the planets from uniform rectilineal motion were all directed to the ſun; and that the ſimultaneous deflections were inverſely proportional to the ſquares of the diſtances from him. Thus was eſtabliſhed a phyſical law of vaſt extent: but further obſervation ſhowed him, that the motion of every body of the ſolar ſyſtem was compounded of an original motion of projection, combined with a deflection towards every other body; and that the ſimultaneous deflections were proportional to the quantity of matter in the body towards which they were directed, and to the reciprocal of the ſquare of the diſtance from it. Thus was the law made ſtill more general. He compared the deflection of the moon in her orbit with the ſimultaneous deflection of a ſtone thrown from the hand, and deſcribing a parabola; and he found that they followed the ſame law, that is, that the deflection of the moon in a ſecond, was to that of the ſtone in the ſame time, as the ſquare of the ſtone's diſtance from the centre of the earth, to the ſquare of the moon's diſtance from it. Hence he concluded, that the deflection of a ſtone from a ſtraight line was juſt a particular inſtance of the deflections which took place through the whole ſolar ſyſtem.

"The DEFLECTION of a ſtone is one of the indications it gives of its being heavy; whence he calls it GRAVITATION. He therefore expreſſes the phyſical law which obtains through the whole ſolar ſyſtem, by ſaying that "every body *gravitates* to every other body; and the gravitations are proportional to the quantity of matter in that other body, and inverſely proportional to the ſquare of the diſtance from it." Thus we ſee how the arrangement of the celeſtial phenomena terminated in the diſcovery of phyſical laws; and that the expreſſion of this arrangement is the law itſelf. Since the fall of a heavy body is one inſtance of the phyſical law, and ſince this fall is conſidered by all as the effect of its *weight*, and this weight is conſidered as the cauſe of the fall, the ſame cauſe is aſſigned for all the deflections obſerved in the ſolar ſyſtem; and all the matter in it is found to be under the influence of this cauſe, or to be heavy; and thus his doctrine has been denominated the *ſyſtem of univerſal* GRAVITATION." See ASTRONOMY, *Index*.

"Philoſophers have gone farther, and have ſuppoſed that gravity is a power, property, or quality, reſiding in all the bodies of the ſolar ſyſtem. Sir Iſaac Newton does not expreſsly ſay ſo, contents himſelf with the immediate conſequence of the firſt axiom in natural philoſophy, viz. every body remains in a ſtate of reſt, or of form rectilineal motion, unleſs affected by moving force. Since the bodies of the ſolar tem are neither in a ſtate of reſt, nor of u rectilineal motion, they muſt be conſidered affected; that is, that there operates on one of them a moving force, directed toward the others, and having the proportions obſ in the deflection. Other philoſophers aſſert all the bodies of the ſolar ſyſtem are conti impelled by a fluid which they call *ether*, is moving in all places, and in all dir or in circular vortices, and hurries alo it the planets and all heavy bodies. philoſophers who adhere to the rules of ſophic diſcuſſion, deny the legitimacy pretended inveſtigation of cauſes; ſaying ſince the *fact* of IMPULSE is not really in the celeſtial deflections, nor in the mot heavy bodies, the law cannot be *inferred*. ſay that neither the fluid nor the impulſe ſerved; and therefore they are in the right they aſſert, that there is inherent in, or acc nies all the bodies of the ſyſtem, a po which they deflect to one another. See § 153—155.

But it is more to our preſent purpoſe how the obſervation and arrangement of mena terminate in the diſcovery of their or of the powers or properties of natural ſtances. This is a taſk of great difficulty, of great importance. There are two chief of this difficulty:

"1. In moſt of the ſpontaneous phenom nature there is a complication of many and ſome of them eſcape our obſervation. tending only to the moſt remarkable, we c theſe only in our imagination, and are a think theſe the concomitant events in natur proper indication of the cauſe, and the ſu of this philoſophical relation, and to ſuppo they are always conjoined by nature. T was thought, that there reſided in a vib chord a power by which the ſenſation of was excited, or that a chord had a ſounding lity. But late obſervations have ſhown that there is an inconceivable number of interpoſed between the vibration of the and the ſenſitive affection of our ear; and fore, that ſound is not the effect of the vib of the chord, but of the very laſt event of th ries: and this is completely demonſtrated ſhowing that the vibration and the ſound are

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ecessarily connected, because they are not *always* onnected, but require the interposition of air or f some other elastic body. These observations ow the necessity of the most accurate and mi- ute observation of the phenomena, that none of ose intermediate events may escape us, and we thus exposed to the chance of imaginary con- ctions between events which are far asunder in e procedure of nature. As the study has im- ured, mistakes of this kind have been correct- ; and philosophers are careful to make their of events under one name as short as pos- . Thus, in medicine, a drug is no longer dered as a *specific* remedy for the disease ch is sometimes cured when it has been used, denominated by its most immediate opera- on the animal frame: it is no longer called *brifuge*, but a *sudorific*.

When many natural powers combine their ence in a spontaneous phenomenon of na- it is frequently very difficult to discover part of the complicated effect is the effect ch; and to state those circumstances of simi- which are the foundation of a physical law, le us to infer the agency of any natural The most likely method for insuring suc- such cases is to get rid of this complication ts, by putting the subject into such a situ- that the operation of all the known powers re shall be suspended, or so modified as we rfectly understand *their* effects. We can preciate the effects of such as we could modify nor suspend, or we can discover ce of a new law, the operation of a new This is called *making an experiment*; and most effectual way of advancing in the dge of nature, and has been called EXPE- TAL PHILOSOPHY. See *Part* II.

seems, however, at first sight, in direct op- to the procedure of nature in forming laws. These are formed by induction ultitudes of individual facts, and must be to no greater extent than the induction they are founded. Yet it is a matter a physical law of human thought, that ple, clear, and unequivocal experiment the most complete confidence in the of a general conclusion from it to every si- case. Whence this anomaly? It is not an y or contradiction of the general maxim losophical investigation, but the most refin- ication of it. There is no law more gene- this, that "*Nature is constant in all her s.*" The judicious and simple form of our ent insures us (we imagine) in the com- owledge of all the circumstances of the Upon this supposition, and this alone, we the experiment as the faithful representa- every possible case of the conjunction.

last branch of philosophic occupation is ination of subordinate phenomena. This ing more than the referring any particular enon to that class in which it is included; ating out the general law, or that general which the phenomenon is a particular in- Thus the feeling of the obligations of is thought to be explained, when it is n to be a particular case of that regard which every person has for his dearest interests. The rise of water in pumps is explained, when we show it to be a particular case of the pressure of fluids, or of the air. The general law under which we show it to be properly arranged is called the PRINCIPLE of the explanation, and the explanation itself is called the THEORY of the phenomenon. Thus EULER's explanation of the lunar irregularities is called the *theory of the lunar motions* on the principle of gravitation.

"This may be done either to advance our own knowledge of nature, or to communicate it to others. If done with the first view, we must examine the phenomenon minutely, and endeavour to detect every circumstance in it, and thus discover all the known laws of nature which concur in its production; we then appreciate the operation of each according to the circumstances of its exertion; we then combine all these, and compare the result with the phenomenon. If they are similar, we have explained the phenomenon. We cannot give a better example than Franklin's explanation of the phenomena of thunder and lightning. See ELECTRICITY, *Index*, and LIGHTNING.

"If we explain a phenomenon from known principles, we proceed synthetically from the general law already established, and *known* to exert its influence in the present instance. We state this influence both in kind and degree according to the circumstances of the case; and having combined them, we compare the result with the phenomenon, and show their agreement. Thus, because all the bodies of the solar system mutually gravitate, the moon gravitates to the sun as well as to the earth, and is continually, and in a certain determinate manner, deflected from that path which she would describe did she gravitate only to the earth. Her motion round the earth will be retarded during the first and 3d quarters of her orbit, and accelerated during the 2d and 4th. Her orbit and her period will be increased during our winter, and diminished during our summer. Her apogee will advance, and her nodes will recede; and the inclination of her orbit will be greatest when the nodes are in syzigee, and least when they are in quadrature. And all these variations will be in certain precise degrees. Then we show that all these things actually obtain in the lunar motions, and they are considered as explained.

"This summary account of the object and employment in all philosophical discussion is sufficient for pointing out its place in the circle of the sciences, and will serve to direct us to the proper methods of prosecuting it with success. Events are its object; and they are considered as connected with each other by causation, which may therefore be called the philosophical relation of things. The following may be adopted as the fundamental proposition on which all philosophical discussion proceeds, and under which every philosophical discussion or discovery may be arranged:

Every change that we observe in the state or condition of things IS CONSIDERED BY US *as an effect, indicating the agency, characterising the kind, and determining the degree of its* INFERRED *cause.*"

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"As thus enounced, (say our learned authors,) this proposition is evidently a physical law of human thought. It may be enounced as a necessary and independent truth, by saying, *every change in the state and condition of things* IS AN EFFECT, &c. And accordingly it has been so enounced by Dr REID in his *Essays on the Intellectual Powers of Man*; and its title to this denomination has been abundantly supported by him. But we have no occasion to consider it as possessing this quality. We are speaking of *philosophy*, which is something contingent, depending on the existence and constitution of an intellectual being such as man; and in conformity to the view which we have endeavoured to give of human knowledge in the subjects of philosophical relation, it is quite sufficient for our purpose that we maintain its title to the rank of an universal law of human thought. This will make it a first principle, even although it may not be a necessary truth.

"All the proof necessary for this purpose is universality of fact; and we believe this to be without exception. We are not to expect that all mankind have made, or will ever make, a formal declaration of their opinion; but we may venture to say that all have made it, and continually do make it, virtually. What have the philosophers of all ages been employed about, but the discovery of the causes of those changes that are incessantly going on? Human curiosity has been directed to nothing so powerfully and so constantly as to this. Many absurd causes have been assigned for the phenomena of the universe; but no set of men have ever said that they happened *without a cause*. This is so repugnant to all our propensities and instincts, that even the atheistical sect, who, of all others, would have profited most by the doctrine, have never thought of advancing it. To avoid so shocking an absurdity, they have rather allowed that *chance*, and the *concourse of atoms*, are the causes of the beautiful arrangements of nature. The thoughtless vulgar are no less solicitous than the philosophers to discover the causes of things. Had men never speculated, their conduct alone gives sufficient evidence of the universality of the opinion. The whole conduct of man is regulated by it, nay almost wholly proceeds upon it, in the most important matters, and where experience seems to leave us in doubt; and to act otherwise, as if any thing whatever happened without a cause, would be a declaration of insanity. Dr Reid has beautifully illustrated this truth, by observing, that even a child will laugh at you if you try to persuade him that the top, which he misses from the place where he left it, was taken away by *nobody*. You may persuade him that it was taken away by a fairy or a spirit; but he believes no more about this *nobody*, than the master of the house, when *he* is told that nobody was the author of a piece of theft or mischief. What opinion would be formed, says Dr Reid, of the intellects of the juryman, on a trial for murder by persons unknown, who should say that the fractured skull, the watch and money gone, and other like circumstances, *might* possibly have no cause? he would be pronounced insane or corrupted.

"We believe that Mr HUME is the first author who has ventured to call the truth of this opinion in question; and even *he* does it only in the w of mere possibility. He acknowledges the *gen lity* of the opinion; and he only objects to foundation of this generality, merely becaus does not quadrate wi h his theory of belief; therefore it *may* happen that some men may h no such opinion. But the opinion of a philosop is of no greater weight in a case like this, than t of a ploughboy. If it be a first principle, dir ing the opinions and actions of all, it must ope on the minds of all. The philosopher is the person who may chance to be without it: for it quires much labour, and long habits resolu maintained, to *warp* our natural sentiments; experience shows us that they *may* be warped are at sufficient pains. It is also worthy of re that this philosopher seems as much under th fluence of this law as ordinary mortals. It is when he is aware of its not tallying with his o doctrines that his scruples appear. Observe he speaks when off his guard: "As to thos pressions which arise from the senses, their mate cause is, in my opinion, perfectly inexpl ble by human reason; and it will always be possible to decide with certainty whether th rise immediately from the object, are produc the creative power of the mind, or are d from the Author of our being." Amon alternatives he never thought of their *not* ha rived from *any cause*.

"But it is not enough to show, that thi physical law of the human mind: we have ed it as a first principle, the foundation of a science; therefore not included in or derived any thing more general. Mr Hume's endea to show, that it is not a necessary truth, with sufficient evidence that most attempts rive it in the way of argument are *petitio cipii*; a thing very common in all attem prove first principles. It cannot be proved duction of facts that every event has a ca cause induction always supposes an *objec* or event. Now in by far the greatest num events the causes are unknown. Perhaps in vent whatever do we know the real cause, power or energy which, without any interve produces the effect. No man can say, that simplest event which he ever observed, he w ly apprised of every circumstance which conc to its production. We suppose that no ev nature can be adduced more simple than th tion of a suspended glass ball, when gently by another glass ball; and we imagine tha of our readers will say that he perfectly see thing which happens in this phenomenon believe, too, that most of our readers are o nion, that a body is never put in motion b the impulse of another, except in the cases mal motion; and that they are disposed to i that magnets put iron in motion, and that lectrified body moves another by means of terposed though invisible fluid somehow c ting round them. But unless the stroke ha very smart, so smart indeed as to shatter th balls, the motion of the suspended ball w duced without impulse; that is, the two were not in contact during the stroke; an distance between them was not less tha

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coth part of an inch, and probably much great-
It is not certain that even the moſt violent
oke, ſuch as would ſhatter them to pieces, is
ough to bring them into real contact. The
ofs of this ſingular poſition are ſtated under
TICS, § 154, 155.

Unleſs, therefore, our readers are willing to
w, that the ſuſpended ball was put in motion
a repulſive force inherent in one or both balls,
y muſt acknowledge that they *do not* fully know
the circumſtances of this ſo ſimple phenome-
n, or all the train of events which happen in it;
therefore they are reduced to the neceſſity of
ſing, although they do not ſee it, an interven-
fluid or matter, by the immediate action of
ſe adjoining particles the motion is produced.
being the caſe in the ſimpleſt phenomenon,
ſhall we ſay of the numberleſs multitudes
ch are incomparably more complex? Muſt
not acknowledge that the efficient cauſes, even
e vulgar ſenſe of the word, the immediately
ding events, are unknown, becauſe the con-
ions are not obſerved? and therefore it can-
be ſaid that it is from experimental induction
this truth gains univerſal belief. Nothing
s to remain, therefore, but to allow that this
eral law of human judgment is *inſtinctive*, a
ſtinct of the human ſoul, a firſt principle;
incapable of any other proof than the appeal
e feelings of every man.

imply to ſay, that every change is conſider-
an effect, is not giving the whole characters
phyſical law. The cauſe is not always,
s never, *obſerved*, but is *inferred* from the
omena. The inference is therefore in every
ce dependant on the phenomenon. The
nenon is to us the language of nature. Af-
gravitation as the cauſe of the planetary
ions from uniform rectilineal motion, we ſay
the gravitation of the moon is but $\frac{1}{7600}$th
f the gravitation of a ſtone thrown from the
but we ſay this only from obſerving that
flection of the ſtone is 3600 times greater
the ſimultaneous deflection of the moon. In
our whole knowledge of the cauſe is not
ounded on our knowledge of the phenome-
but *it is the ſame*. This will be found a re-
of immenſe conſequence in the proſecution
philoſophical reſearches; and a ſtrict attention
it will not only guard us againſt a thouſand
ſtakes, into which the *reaſoning pride* of man
ud continually lead us, but will alſo enable us
ly to detect many egregious and fatal blunders
de in conſequence of this philoſophical vanity.
Such is the account which is given by our
ated authors, of PHILOSOPHY, the ſtudy of the
rks of God, as related by cauſation. It is of
extent, reaching from an atom to the glorious
thor of the Univerſe, and contemplating the
ole connected chain of intelligent, ſenſitive and
nimate beings. The philoſopher makes uſe of
deſcriptions and arrangements of the natural
orian, in the beginning of his career; confid-
in the uniformity of nature, and expecting
t ſimilarity in the quieteſt properties of things
l be accompanied by ſome reſemblances in
ſe more important properties which conſtitute
r mutual dependences, linking them together
in a great and endleſsly ramified chain of events. We have endeavoured to aſcertain with preciſion the peculiar province of philoſophy, both by means of its object and its mode of procedure. After this, it will not require many words to point out the methods for proſecuting the ſtudy with expedition and with ſucceſs.

SECT. IV. SIR ISAAC NEWTON'S RULES OF PHILOSOPHIZING.

The rules of philoſophizing, which NEWTON premiſes to his account of the planetary motions, which he ſo ſcrupulouſly followed, and with a ſucceſs which gives them great authority, are all in ſtrict conformity to the view we have now given of the ſubject.

"The chief rule is, that *ſimilar cauſes* are to be aſſigned to *ſimilar phenomena*. This is indeed the ſource of all our knowledge of connected nature; and without it the univerſe would only preſent to us an incomprehenſible chaos. It is by no means, however, neceſſary to enjoin this as a maxim for our procedure: it is an inſtinctive propenſity of the human mind. It is abſolutely neceſſary, on the contrary, to caution us in the application of this propenſity. We muſt be extremely confident in the certainty of the reſemblance before we venture to make any inference. We are prone to reaſon from analogy: the very employment is agreeable; and we are ever diſpoſed to embrace opportunities of engaging in it. For this reaſon we are ſatisfied with very ſlight reſemblances, and eagerly run over the conſequences, as if the reſemblances were complete; and thus our reſearches frequently terminate in falſehood.

"This propenſity to analogical reaſoning is aided by another equally ſtrong, and equally uſeful, when properly directed; we mean the propenſity to form general laws: it is in fact a propenſity to diſcover *cauſes*, which is equivalent to the eſtabliſhing of general laws. It appears in another form, and is called a love of or taſte for ſimplicity; and this is encouraged or juſtified as agreeable to the uniformity and ſimplicity of nature. "*Natura ſemper ſibi ſimilis et conſona*," ſays NEWTON; "*Fruſtra fit per plura quod fieri poteſt per pauciora*," ſays another. The beautiful, the wiſe economy of nature, are phraſes in every body's mouth; and Newton enjoins us to adopt no more cauſes than are ſufficient to explain the phenomena. All this is very well, and is true in its own degree; but it is too frequently the ſubterfuge of human vanity and ſelf-love. This inordinate admiration of the economy and ſimplicity of nature is generally conjoined with a manifeſt love of ſyſtem, and with the actual production of ſome new ſyſtem, where from one general principle ſome extenſive theory or explanation is deduced and offered to the world. The author ſees *a ſort* of reſemblance between a certain ſeries of phenomena and the conſequences of ſome principle, and thinks the principle adequate to their explanation. Then, on the authority of the acknowledged ſimplicity of nature, he roundly excludes all other principles of explanation; becauſe, ſays he, this principle is ſufficient, *et fruſtra fit per plura*, &c. We could point out many inſtances of this kind in the writings of perhaps the firſt mathematician and the pooreſt

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pooreſt philoſopher of the laſt century; where extenſive theories are thus cavalierly exhibited, which a few years examination have ſhown to be nothing but analogies, indiſtinctly obſerved, and, what is worſe inaccurately applied.

"To regulate theſe hazardous propenſities, (ſay our learned authors,) and keep philoſophers in the right path, Newton inculcates another rule, or rather gives a modification of this injunction of ſimplicity. He enjoins, that *no cauſes ſhall be admitted but ſuch as are true, and ſufficient to account for the phenomena.* The meaning of this rule has been miſtaken by many philoſophers, who imagine that by *true* he means cauſes which really exiſt in nature, and are not mere creatures of the imagination. We have met with ſome who would boggle at the doctrines of Ariſtotle reſpecting the planetary motions, *viz.* that they are carried along by conducting intelligent minds, becauſe we know of *none ſuch* in the univerſe; and who would nevertheleſs think the doctrine of the Carteſian vortices deſerving of at leaſt an examination, becauſe we ſee ſuch vortices exiſt, and produce effects which have ſome reſemblance to the planetary motions, and have juſtly rejected them, *ſolely* becauſe this reſemblance has been very imperfect. We apprehend Newton's meaning is, that no cauſe of any event ſhall be admitted, or even conſidered, which we *do not know* to be actually concurring or exerting ſome influence *in that very event.* If this be his meaning, he would reject the Carteſian vortices, and the conducting ſpirits of Ariſtotle for one and the ſame reaſon; not becauſe they were not adequate to the explanation, nor becauſe ſuch cauſes did not exiſt in nature, but becauſe we did not *ſee them* any how concerned in the phenomenon under conſideration. We neither ſee a ſpirit nor a vortex, and therefore need not trouble ourſelves with enquiring what effects they would produce. This was his conduct, and has diſtinguiſhed him from all philoſophers who preceded him, though many, by following his example, have been rewarded by ſimilar ſucceſs. This has procured to Newton the character of the *modeſt* philoſopher; and modeſt his procedure may be called, becauſe the contrary procedure of others did not originate ſo much from ignorance as from vanity. Newton's conductor in this was not modeſty, but ſagacity, prudence, caution, and in a word, ſound judgment.

"For the bonds of nature, the ſuppoſed philoſophical cauſes are not *obſerved*; they are *inferred* from the phenomena. When two ſubſtances are obſerved, and only when they are obſerved, to be connected in any ſeries of events, we *infer* that they are connected by a natural power: but when one of the ſubſtances is not ſeen, but fancied, no law of human thought produces any inference whatever. For this reaſon, Newton ſtopped ſhort at the laſt FACT which he could diſcover in the ſolar ſyſtem, that all bodies were deflected to all other bodies, according to certain regulations of diſtance and quantity of matter. When told that he *had done nothing* in philoſophy, that he *had diſcovered no cauſe*, and that to merit any praiſe he muſt ſhow *how* this deflection was produced;—he ſaid, that he knew no more than he had told them; that he ſaw nothing cauſing this deflection; and was contented with having deſcribed it ſo exactly, that a good mathematician could now make tables of the planetary motions as accurate as he pleaſed, and with hoping in a few years to have every purpoſe of navigation and of philoſophical curioſity completely anſwered. He was not diſappointed. When philoſophers were contriving hypothetical fluids, and vortices which would produce theſe deflections, he contented himſelf with ſhowing the total inconſiſtency of theſe explanations with the mechanical principles acknowledged by their authors; and that their cauſes were neither *real*, nor ſufficient for explaining the phenomena. A cauſe is ſufficient for explaining a phenomenon only when its legitimate conſequences are perfectly agreeable to theſe phenomena.

"NEWTON'S diſcoveries remain without diminution or change: no philoſopher has yet advanced a ſtep further. But let not the *authority*, or even the ſucceſs, of Newton be our guide, farther than they are ſupported by experiment. If philoſophy be only the interpretation of nature's language, the inference of cauſes from the phenomena, a fancied or hypothetical phenomenon can produce nothing but a fanciful cauſe, and can make no addition to our knowledge of real nature.

SECT. V. *Of the* DANGER OF HYPOTHESIS IN PHILOSOPHY.

"All *hypotheſes* muſt be baniſhed from philoſophical diſcuſſion as frivolous and uſeleſs, adminiſtering to vanity alone. As the explanation of any appearance is nothing but the pointing out the general fact, of which this is a particular inſtance, a hypotheſis can give no explanation: knowing nothing of cauſe and effect but the conjunction of two events, we ſee nothing of *explanation* where one of the events is hypothetical. Although all the legitimate conſequences of a hypothetical principle ſhould be perfectly ſimilar to the phenomenon, it is extremely dangerous to aſſume this principle as the real cauſe. It is illogical to make uſe of the economy of nature as an argument for the truth of any hypotheſis: for if true, it is a phyſical truth, a matter of fact, and true only to the extent in which it is obſerved; and we are not entitled to ſay that it is ſo one ſtep farther, *till it be obſerved.* But the propoſition that nature is ſo economical is *falſe*; and it is aſtoniſhing that it has been ſo lazily acquieſced in by the *readers* of hypotheſes: for it is not the *authors* who are deceived by it, they are generally led by their own vanity. Nothing is more obſervable than the *prodigious variety of nature.* That the ſame phenomena may be produced by different means is well known to the aſtronomers, who muſt all grant, that the appearance of motion will be preciſely the ſame, whether the earth moves round the ſun like the other planets, or whether the ſun with his attendant planets moves round the earth; and that the demonſtration of the falſe opinion is had from a fact totally unconnected with all the deflections or even with their cauſes; for it may be aſſerted, that Dr BRADLEY'S diſcovery of the ABERRATION of the fixed ſtars, in conſequence of the progreſſive motion of light, was the firſt thing which put the Copernican ſyſtem beyond

beyond queſtion; and even this is ſtill capable of *being explained* in another way. The Author of Nature ſeems to delight in variety; and there cannot be named a ſingle purpoſe in which the moſt inconceivable fertility in reſource is not obſerved. It is the moſt delightful occupation of the inquiſitive mind and the ſenſible heart to contemplate the various contrivances of nature in accompliſhing ſimilar ends.

"As a principle therefore on which to found any maxim of philoſophical procedure, this is not only *injudicious*, becauſe imprudent and *apt* to miſlead, but as *falſe* and almoſt *ſure* to miſlead. Nothing indeed has done ſo much harm in philoſophy, as the introduction of *hypotheſes*.

"Authors have commonly been ſatisfied with any ſlight reſemblances, and readers are eaſily miſled by the appearances of reaſoning, which theſe reſemblances have countenanced. The ancients, and above all ARISTOTLE, were much addicted to this mode of explanation, and filled philoſophy with abſurdities. The ſlighteſt reſemblances were with them ſufficient foundations of theories. It has been by very ſlow degrees that we have learned caution in this reſpect; and we are not yet cured of the diſeaſe of hypothetical ſyſtematizing. Nay, modern philoſophers even of the greateſt name are by no means exempted from the reproach of hypothetical theories. Their writings abound in ethers, nervous fluids, animal ſpirits, vortices, vibrations, and other inviſible agents. All theſe attempts may be ſhown to be either unintelligible, fruitleſs, or falſe. (See Queſts, § 153—156.)

"It may here be aſked, Whether, in the caſe of the moſt perfect agreement, after the moſt extenſive comparifon, a hypotheſis ſhould be admitted? This muſt be left to the feelings of the mind. When the belief is irreſiſtible, we can reaſon no longer. But as there is no impoſſibility of as perfect an agreement with ſome other hypotheſis, it is evident that it does not convey an irrefragable knowledge of our hypotheſis.

"In a word, it is *impoſſible*, that hypothetical explanations can give any addition of knowledge. For the hypotheſis we thruſt in an intermediate event between the phenomenon and ſome general law; and this event is not ſeen but *ſuppoſed*. Therefore, according to the true maxims of philoſophical inveſtigation, we give no explanation; for we are not thereby enabled to aſſign the general law in which this particular phenomenon is included: nay, the hypotheſis makes no addition to our liſt of general laws; for our hypotheſes are *ſelected*, to tally with all the phenomena. The hypotheſis therefore is underſtood only *by* and *for* the phenomena; and it muſt not be made more general than the phenomena themſelves. The hypotheſis gives no generaliſation of facts. Its whole application is founded on a coincidence of ſuppoſal and the hypothetical notion is thruſt in between two facts, which we really obſerve to be ſucceſſive by nature. Let us then throw away entirely the hypothetical law, and infert the obſervation in our liſt of general laws: it will be in different language from the hypothetical law, but will expreſs the facts in nature.

"It is in *experimental* philoſophy alone, that hypotheſes can have any juſt claim to admiſſion; and here they are not admitted as explanations, but as conjectures ſerving to direct our line of experiments. Effects only appear; and by their appearance, and the previous information of experience, cauſes are immediately aſcertained by the perfect ſimilarity of the whole train of events to other trains formerly obſerved: Or they are ſuggeſted by more imperfect reſemblances of the phenomena; and theſe ſuggeſtions are made with ſtronger or fainter evidence, according as the reſemblance is more or leſs perfect. Theſe ſuggeſtions do not amount to a confidential inference, but only raiſe a conjecture. Wiſhing to verify or overturn this conjecture, we have recourſe to experiment. In this way conjectures have their uſe, and are the ordinary means by which experimental philoſophy is improved. But *conjectural ſyſtems* are worſe than nonſenſe, filling the mind with falſe notions of nature, and generally leading us into a courſe of improper conduct, when they become principles of action. This is acknowledged even by the abettors of hypothetical ſyſtems themſelves, when employed in overturning thoſe of their predeceſſors, and eſtabliſhing their own: witneſs the ſucceſſive maintainers of the many hypothetical ſyſtems in medicine, which have had their ſhort-lived courſe within theſe two laſt centuries.

"Let every perſon therefore who calls himſelf a philoſopher reſolutely determine to reject all temptations to this kind of ſyſtem-making, and let him never conſider any compoſition of this kind as any thing better than the amuſement of an idle hour.

SECT. VI. *Of the* PROPER MODE OF PROSECUTING PHILOSOPHICAL INVESTIGATIONS.

"AFTER theſe obſervations (our learned authors obſerve,) it cannot require much diſcuſſion to mark the mode of procedure which will inſure progreſs in all philoſophical inveſtigations. The ſphere of our intuitive knowledge is very limited; we muſt be indebted for the greateſt part of our intellectual attainments to our rational powers, and it muſt be deductive. In the ſpontaneous phenomena of nature, whether of mind or body, it ſeldom happens that the energy of that natural power, which is the principle of explanation, is ſo immediately connected with the phenomenon that we ſee the connection at once. Its exertions are frequently concealed, and in all caſes modified, by the joint exertions of other natural powers: the particular exertion of each muſt be conſidered apart, and their mutual connection traced out. It is only in this way that we can diſcover the train of intermediate operations, and ſee in what manner and degree the real principle of explanation concurs in the oſtenſible proceſs of nature.

"In all ſuch caſes it is evident, that our inveſtigation muſt proceed by ſteps, conducted by the ſure hand of logical method. To take an inſtance, let us liſten to Galileo, while he is teaching his friends the cauſe of the riſe of water in a pump. He ſays that it is owing to the preſſure of the air. This is his principle; and he announces it in all

its

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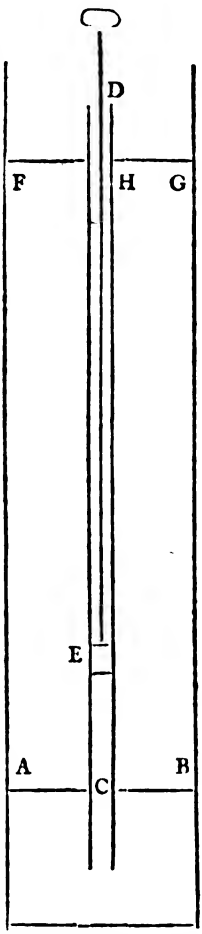
its extent. "All matter, ſays he, is heavy, and in particular air is heavy. He then points out the connection of this general principle with the phenomenon. Air being heavy, it muſt be ſupported: it muſt lie and preſs on what ſupports it; it muſt preſs on the ſurface AB of the water in the ciſtern ſurrounding the pipe CD of the pump; and alſo in the water C within this pipe. He then takes notice of another general principle which exerts its ſubordinate influence in this proceſs. Water is a fluid; a fluid is a body whoſe parts yield to the ſmalleſt impreſſion; and, by yielding, are eaſily moved among themſelves: and no little parcel of the fluid can remain at reſt unleſs it be equally preſſed in every direction, but will recede from that ſide where it ſuſtains the greateſt preſſure. In conſequence of this fluidity, *known* to be a property of water, if any part of it is preſſed, the preſſure is propagated thro' the whole; and if not reſiſted on every ſide, the water will move to that ſide where the propagated preſſure is not reſiſted. All theſe ſubordinate or collateral propoſitions are ſuppoſed to be previouſly demonſtrated or allowed. Water therefore muſt yield to the preſſure of the air unleſs preſſed by it on every ſide, and muſt move to that ſide where it is not with-held by ſome oppoſite preſſure. He then proceeds to ſhow, from the ſtructure of the pump, that there is no oppoſing preſſure on the water in the inſide of the pump. "For (ſays he) ſuppoſe the piſton thruſt down till it touches the ſurface of the water in the pipe; ſuppoſe the piſton now drawn up by a power ſufficient to lift it, and all the air incumbent on it; and ſuppoſe it drawn up a foot or a fathom—there remains nothing now to preſs on the ſurface of the water. In ſhort, the water in the pump is in the ſame ſituation it would be in, were there no air at all, but water poured into the ciſtern to a height AF, ſuch, that the column of water FABG preſſes on the ſurface AB, as much as the air does. In this caſe the water at C is preſſed upwards with a force equal to the weight of a column of water, having the ſection of the pipe for its baſe and CH for its height. The water below C therefore will be preſſed up into the pipe CD, and will riſe to G, ſo that it is on a level with the external water FG; that is, it will riſe to H. This is a neceſſary conſequence of the weight and preſſure of the incumbent column FABG, and the fluidity of the water in the ciſtern. Conſequences perfectly



miliar muſt neceſſarily follow from the weight preſſure of the air; and therefore on drawing the piſton from the ſurface of the water, which it was in contact, the water muſt follo till it attain that height, which will make its weight a balance for the circumambient air. cordingly the Italian plumbers inform me, th pump will not raiſe water quite 50 palms; from their information I conclude, that a p of water of 50 palms high is ſomewhat he than a pillar of air of the ſame baſe, and rea to the top of the atmoſphere."

"Thus is the phenomenon explained. riſe of the water in the pump is ſhown to particular caſe of the general fact in hydro that fluids in communicating veſſels will ſta heights which are inverſely as their denſiti that columns of equal weights are in equili

"This way of proceeding is called argu *priori*, or the ſynthetic method. It is found juſt principles; and the great progreſs ma the mathematical ſciences, by this mode of re ing, ſhows to what length it may be carried irreſiſtible evidence. It has long been con as the only inlet to true knowledge; and was allowed to be known with certainty could not be demonſtrated in this way th Accordingly logic, or the art of reaſo nothing but a ſet of rules for ſucceſsfully ting this argument.

"Under the direction of this infallible philoſophy has made ſure progreſs towa fection, and the progreſs has not only b but great. The explanation of an appea nature is nothing but the arrangement of that general claſs, in which it is compre The claſs has its diſtinguiſhing mark, which it is found in the phenomenon, fixes it in there to remain for ever an addition to of knowledge. Nothing can be loſt way but by forgetting it; and the doc philoſophers muſt be ſtable like the la ture.

"We have ſeen, however, that the ver of all this was long the caſe; that philoſ but lately emerged from total darkneſs a rance; that what paſſed under the name *ſophy* was nothing but ſyſtems of errors were termed *doctrines*, delivered with th impoſing apparatus of logical demonſtrati bended in almoſt every inſtance by experie affording no aſſiſtance in the application powers of nature to the purpoſes of life.

"It is allowed by all that this has been in thoſe branches of ſtudy at leaſt, which plate the philoſophical relations of the world, in aſtronomy, in mechanical phi in chemiſtry, in phyſiology, in medicine, culture. It is alſo acknowledged, tha courſe of leſs than two centuries we hav red much knowledge on theſe ſubjects, more conformable to the natural courſe o that the deductions made from it by the fi of the ſynthetic method are more comfor fact, and therefore better fitted to direct duct and improve our powers. It is alſo

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that these philosophical systems have more stability than in ancient times; and though sometimes in part superseded, are seldom wholly exploded.

"This cannot perhaps be affirmed with equal confidence with respect to those speculations which have our *intellect* or *mental propensities* for their object. We have proceeded in the old Aristotelian method when investigating the nature of mind. There has been a material defect in our mode of procedure, in the employment of this method of reasoning as an inlet to truth. Philosophers have long mistaken the road of discovery, and have set out in their investigations from the point where this journey should have terminated. The ARISTOTELIAN logic, the syllogistic art, that art so much boasted of, as the only inlet to true knowledge, the only means of discovery, was directed opposition to the procedure of nature, by which we acquire knowledge and discover truth. The ancient logic supposed, that all the first principles are already known, and that nothing is wanted but the application of them to particular facts. But were this true, the application of them can hardly be called a discovery: for it is false; and the fact is, that the first principles are generally the chief objects of our research, and that they have come into view only now and then as it were by accident, and never by the labours of the logician. But curiosity was excited, and men of genius were fretted as well as disgusted with the disquisitions of the schools, which one moment raised expectations by the artifice of composition, and the next moment disappointed them by their inconsistency with experience. They saw that the best was to begin anew, to throw away the first principles altogether, without exception, and endeavour to find out new ones, which should in every case be agreeable to fact.

"Philosophers began to reflect, that under the unassisted tuition of nature men had acquired much useful knowledge. The exercise of the inductive principle, by which nature prompts us to infer general laws from the observation of particular facts, is a species of logic new in the schools, but old in human nature. It is a just and rational logic; it is founded on, and indeed is the only habitual appellation of, this maxim, "That whatever is true with respect to every individual of a class of events, is true of the whole class." This is the inverse of the maxim on which the Aristotelian logic proceeded.

"This new logic, therefore, or the logic of INDUCTION, must not be considered as subordinate to the old, or founded on it. See LOGIC, *Part III. §.* 5. It was not till within these two centuries that the increasing demand for practical knowledge, particularly in the arts, made inquirers see how useless and insufficient was the reasoning of the schools in any road of investigation which was connected with life and business; and how, that society had received useful information chiefly from persons actually engaged in the arts which the speculatists were endeavouring to illustrate; and that this knowledge consisted chiefly of experiments and observations, the only contributions which their authors could make to science.

"The *Novum Organum* of BACON, (say our learned authors,) which points out the true method of forming a body of real and useful knowledge, namely, the study of nature in the way of description, observation, and experiment, is undoubtedly the noblest present that science ever received. It may be considered as the grammar of nature's language, and is a counter part to the logic of Aristotle. As the logic of Aristotle had its rules, so has the Baconian or inductive; and the *Novum Organum Scientiarum* contains them all. The chief rule, and indeed the rule from which all the rest are derived, is, that "the induction of particulars must be carried as far as the general affirmation which is deduced from them." If this be not attended to, the mind of man, which, from his earliest years, shows great eagerness in searching for first principles, will be apt to ascribe to the operation of a general principle events which are merely accidental. Hence the popular belief in omens, palmistry, and all kinds of superstition.

"This rule has evidently given a new turn to the whole track of philosophical investigation. To discover first principles, we must make extensive and accurate observations, so as to have copious inductions of facts, that we may not be deceived as to the extent of the principle inferred from them. We must extend our acquaintance with the phenomena, paying a minute attention to what is going on all around us; and we must study nature, not shut up in our closet drawing the picture from our own fancy, but in the world, copying our lines from her own features. To delineate human nature, we must see how men act. To give the philosophy of the material world, we must notice its phenomena."

"This method of studying nature has been prosecuted during these two last centuries with great eagerness and success. Philosophers have made accurate observations of facts, and copious collections of them. Men of genius have discovered many general powers both of mind and body; and resemblances among these have suggested powers still more general. By these efforts investigation became familiar; hypotheses were banished, and nothing was admitted as a principle which was not inferred from the most evident induction. Conclusions from such principles became every day more conformable to experience. Mistakes sometimes happened; but recourse being had to more accurate observation or more certain induction, the mistakes were corrected. In the present study of nature, our steps are more slow, hesitating and painful; our conclusions are more limited and modest; but our discoveries are more *certain* and progressive, and the results are more applicable to the purposes of life. This pre-eminence of modern philosophy over the ancient is seen in every path of inquiry. It was first remarkable in the study of the material world; and there it still continues to be most conspicuous. But it is no less to be seen in the later performances of philosophers in metaphysics, pneumatology, and ethics, where the mode of investigation by analysis and experiment has been greatly adopted; and this has restored philosophers to the

the world, to society. They are no longer to be found only in the academies of the sophists and the cloisters of a convent, but in the discharge of public and private duty.

"After saying so much on the nature of the employment, and the mode of procedure, it requires no deep penetration to perceive the value of the philosophical character. If there is a propensity in the human mind which distinguishes us from the inferior orders of sentient beings, a propensity which alone may be taken for the characteristic of the species, and of which no trace is to be found in any other, it is disinterested intellectual curiosity, a love of discovery for its own sake, independent of all its advantages.

"We think highly, and with justice, of our rational powers; but we may carry this too far. To every man who enjoys the cheering thought of living under the care of a wise Creator, this boasted prerogative will be viewed with modesty and diffidence; and He has given marks of the rank in which He esteems the rational powers of man. In no case of essential importance, of indispensable necessity, to our well-being or our existence, has He left man to the care of his *reason* alone.

"God has not trusted either the preservation of the individual or the continuance of the race, to man's opinion of the importance of the task, but has committed them to the surer guards of hunger and of sexual desire. In like manner, He has not left the improvement of his noblest work, the intellectual powers of the soul of man, to his own discovery how important it is to his comfort, that he be thoroughly acquainted with the objects around him. No: He has committed this to the sure hand of curiosity: and He has made this so strong in a few superior souls, whom He has appointed to give light and knowledge to the whole species, as to abstract them from all other pursuits, and to engage them in intellectual research with an ardour, which no attainment can ever quench, but, on the contrary, inflames it the more by every draught of knowledge."

The wisdom and goodness of the Creator appear equally in His beneficence. Human life is a scene filled with enjoyment; and the soul of man is stored with propensities and powers which have *pleasure, in direct terms,* for their object. Not to expatiate on the great variety of corporeal pleasures, which the present state of human existence affords, Man has improved this anxious desire of the knowledge of the objects around him, so as to derive from them not only the means of subsistence and comfort but the most elegant and pleasing of all gratifications, the accumulation of INTELLECTUAL KNOWLEDGE, independent of all consideration of its advantages. It is therefore not only lawful but highly commendable, in such as possess the means of intellectual improvement, without relinquishing the indispensable social duties, to push this advantage as far as it will go; and in all ages and countries, it has been considered as forming the greatest distinction between men of easy fortune and the majority of the inferior ranks, who must procure their own support, while they contribute to the good of the community, by their manual labour. The plebeian must learn to *work*, the gentleman must learn to *think*; and nothing can be a surer mark of a *groveling soul* than for a man of fortune to have an uncultivated mind.

"Let us then cherish to the utmost this distinguishing propensity of the human soul: but let us do even this like philosophers. Let us cultivate it as it is; as the handmaid to the arts and duties of life; as the guide to something yet more excellent. A character is not to be estimated from what the person knows, but from what he can perform. The accumulation of intellectual knowledge is too apt to create an inordinate appetite for it; and the man habituated to speculation to become like the miser, too apt to place the pleasure in the mere *possession*, which he ought to look for only or chiefly in the *judicious use* of his favourite object."

To conclude, in the words of our learned authors, The "solid advantages, which philosophy is able to bestow, are great. To enumerate and describe them all would be to write a volume. We may take notice of one, which is an obvious consequence of that simple view which we have given of the object; and this is, a modest opinion of our attainments. *Appearances* are all that we know; *causes* are for ever hid from our view: the powers of our nature cannot reach them. Let us therefore, relinquish all pursuits which promise *ultimate principles* for *objects of examination*, and let us attend to the subordination of things, which is our great business to explore. Among these there is such a subordination as that of means to ends, and of instruments to an operation. No man will acknowledge the absurdity of examining a picture with a microscope. It is equally absurd for us to examine the nature of knowledge, of truth, of infinite wisdom, by our intellectual powers. We have a wide field of accessible knowledge in the works of God; and one of the greatest advantages, and of the most sublime pleasures which we can derive from the contemplation of the view which a judicious philosophical research will most infallibly give us of a world, not consisting of a number of detached objects, connected only by the fleeting tie of coexistence, but an *universe*, a *system* of beings, all connected together by causation, with innumerable degrees of subordination and subserviency, and all co-operating to the production of one great and glorious purpose. The heart which has but a spark of sensibility must be warmed by such a prospect, must be pleased to find itself an important part of this stupendous machine; and cannot but adore the great comprehensible Artist who contrived, creates and directs the whole.

"PHILOSOPHICAL DISQUISITION will explain these general laws of the universe, that wonderful concatenation and adjustment of every thing material and intellectual, as the most striking instance of incomprehensible wisdom; which by means so few and so simple, can produce effects which by their grandeur dazzle our imagination and by their multiplicity elude all possibility of enumeration. Of all the obstacles which human weakness, the folly, or the vanity of men, have thrown in the way of the theologian, there is none so fatal, so hostile to all his endeavours, as a ci-

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and comfortleſs ſyſtem of MATERIALISM, which the reaſoning pride of man firſt engendered, which made a figure among a few ſpeculatiſts in the 17th century, but was ſoon forgotten by the philoſophers really buſy with the obſervation of nature and of nature's God. It has of late reared up its head, being cheriſhed by all who wiſh to get rid of the ſtings of remorſe, as the only opinion compatible with the peace of the licentious and the ſenſual. In vain will the divine attempt to lay this devil with the metaphyſical exorciſms of the ſchools; it is philoſophy alone that can detect the cheat. Philoſophy ſingles out the characteriſtic phenomena which diſtinguiſh every ſubſtance; and philoſophy never will heſitate to conclude, that there is one ſet of phenomena which characteriſe *mind*, and another which characteriſe *body*, and that theſe are *toto cælo* different. Continually appealing to fact, to the phenomena, for our knowledge of every cauſe, we ſhall have no difficulty in deciding that thought, memory, volition, joy, hope, are not compatible attributes with bulk, weight, elaſticity, fluidity. *Tuta ſub ægide Palladis*; philoſophy will maintain the dignity of human nature, will detect the ſophiſms of the materialiſts, confute their arguments, and reſtore to the countenance of nature that ineffable beauty of which thoſe would deprive her, who would take away the SUPREME MIND which ſhines from within, and gives life and expreſſion to every feature."

PART. II.

Of EXPERIMENTAL PHILOSOPHY.

EXPERIMENTAL PHILOSOPHY is that which has its foundation in experience, wherein nothing is aſſumed as a truth but what is founded upon ocular demonſtration, or which cannot be denied without violating the common ſenſe and perceptions of all mankind. It proceeds entirely on experiments; deduces the laws of nature, and the powers and properties of bodies, with their effects on each other, from experiments and obſervations.

In former times philoſophers, when reaſoning about natural things, inſtead of following this method, aſſumed ſuch principles as they imagined ſufficient for explaining the phenomena, without conſidering whether theſe principles were juſt or not. Hence for a great number of ages no progreſs was made in ſcience; but ſyſtems were heaped upon ſyſtems, having neither conſiſtency with one another nor with themſelves. No proper explanations indeed were given of any thing; for all theſe ſyſtems, when narrowly examined, were found to conſiſt merely in changes of words, which were often very abſurd and barbarous.

The firſt who deviated from this method of philoſophizing, was Friar BACON, who lived in the 13th century, and who ſpent 2000 l. (an immenſe ſum in thoſe days) in making experiments. The admirable CRICHTON, who flouriſhed about the year 1580, not only diſputed againſt the philoſophy of ARISTOTLE, which had for ſo long been in vogue, but wrote a book againſt it. Cotemporary with this celebrated perſonage was FRANCIS, LORD BACON, lord chancellor of England, who is looked upon to be the founder of the preſent mode of philoſophiſing by experiments. But though others might lay the foundation, Sir ISAAC NEWTON is juſtly allowed to have brought this kind of philoſophy to perfection; and to him we are certainly indebted for the greateſt part of it. Unfortunately, however, neither Lord VERULAM nor Sir Iſaac Newton had an opportunity of knowing many important facts relating to the principles of FIRE and ELECTRICITY, which have ſince been brought to light. Hence all their philoſophy was merely mechanical, or derived from the viſible operations of ſolid bodies, or of the groſſer fluids upon one another. In ſuch caſes therefore, where the more ſubtile and active fluids were concerned, they fell into miſtakes, or were obliged to deny the exiſtence of the principles altogether, or make uſe of terms which were equally unintelligible and incapable of conveying any information with thoſe of their predeceſſors. A remarkable inſtance of the errors into which they were thus betrayed, we have in the doctrine of projectiles, where the moſt enormous deviations from truth were ſanctified by the greateſt names of the 17th century, merely by reaſoning from the reſiſtance of the air to bodies moving ſlowly and viſibly, to its reſiſtance to the ſame bodies when moved with high degrees of velocity. (See PROJECTILES.) In other caſes they were reduced to make uſe of words to expreſs immechanical powers, as attraction, repulſion, refraction, &c. which have ſince tended in no ſmall degree to embarraſs and confound ſcience by the diſputes that have taken place concerning them. The foundations of the preſent ſyſtem of experimental philoſophy are as follow:

I. All the material ſubſtances of which the univerſe is compoſed are called *natural bodies*. What we perceive uniform and invariable in theſe ſubſtances we call their *properties*. Some of theſe are general and common to all matter, as EXTENSION; others are proper to particular ſubſtances, for inſtance FLUIDITY; while ſome appear to be compounded of the general and particular properties, and thus belong to a ſtill ſmaller number; as the properties of air, which are derived from the general property of extenſion combined with thoſe of fluidity, elaſticity, &c.

II. In taking a particular review of the properties of bodies, we naturally begin with that of EXTENSION. This manifeſts itſelf by the three dimenſions of length, breadth, and thickneſs. Hence proceeds the diviſibility of matter; which the preſent ſyſtem ſuppoſes to reach even to infinity: but though this propoſition be ſupported by mathematical demonſtrations, it is impoſſible we can either have any diſtinct idea of it, or of the oppoſite doctrine, which teaches that matter is compoſed of exceſſively minute particles called *atoms*, which cannot be divided into ſmaller ones. The ſubtilty indeed to which ſolid bodies may be reduced by mechanical means is very ſurpriſing; and in ſome caſes is ſo great, that we might be tempted to ſuppoſe that a farther diviſion is impoſſible. Thus, in grinding a ſpeculum, the inequalities of its ſurface are ſo effectually worn off, that the whole becomes in a certain degree inviſible, ſhowing not itſelf by the light which falls upon it, but the image of other bodies: but the ſmalleſt

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ſcratch which diſturbs the equality of the ſurface is at once diſtinctly viſible.

III. From the arrangement of theſe ultimate particles of matter, whatever we ſuppoſe them to be, ariſe the various figures of bodies: and hence *figure* is a property of all bodies no leſs univerſal than extenſion, unleſs we ſpeak of the ultimate particles of matter, which, as they are ſuppoſed to be deſtitute of *parts*, muſt conſequently be equally deſtitute of *figure*; and the ſame conſequence will follow whether we adopt this ſuppoſition or the other. The figures of bodies are ſo extremely various and diſſimilar, that it is impoſſible to find any two perfectly alike. It is indeed the next thing to impoſſible to find two in which the diſſimilarity may not be perceived by the naked eye; but if any ſuch ſhould be found, the microſcope will quickly diſcover the imbecility of our ſenſes in this reſpect. Solidity is another property eſſential to all matter. By this we mean that property which one quantity of matter has of excluding all other from the ſpace which itſelf occupies at that time. Hence ariſes what we call RESISTANCE, which is always an indication of ſolidity; and no leſs ſo in theſe bodies which we call *fluid* than in thoſe which are the moſt ſolid. This may at firſt ſeem to be a contradiction; but fluids yield only when they can get away from the preſſure; in all other caſes they reſiſt as violently as the moſt ſolid bodies. Thus water confined in a tube will as effectually reſiſt the impreſſion of a piſton thruſt down upon it as though it were the moſt ſolid ſubſtance. Air indeed will yield for a certain time; but this, as appears from ſeveral experiments, is entirely owing to a more ſubtile fluid, viz. that of elementary fire being preſſed out from among its particles. As long as this fluid can be forced out, either from among the particles of air, water, or any other more groſs fluid ſubſtance, the latter will be found compreſſible, as a heap of wet ſand would be by ſqueezing the water out from it: but when we come to the moſt ſubtile of all elements, ſuch as we ſuppoſe that of fire to be, there cannot be any poſſibility of compreſſing it, even though we had a veſſel ſo cloſe as to prevent it from eſcaping through its ſides; becauſe its parts are already as near each other as they can be.

IV. The diſtance of the parts of bodies from each other is called their POROSITY, and was formerly ſuppoſed to be owing to a vacuum interſperſed between them; but now it is generally allowed that the pores of ſolid bodies as well as of fluids are filled with an extremely ſubtile matter which pervades all nature. The poroſity of bodies with regard to one another may be thus explained. Wood, or a ſponge, is porous with regard to water; but water itſelf is porous with regard to air, which it abſorbs in conſiderable quantity. Both air and water are porous with regard to the element of fire, which produces very conſiderable changes upon them, according to the quantity of it they contain, or the manner it acts in their pores. This element itſelf, however, is not porous with regard to any other ſubſtance. Its pores, therefore, if it has any, muſt be abſolute vacuities deſtitute of any matter whatever. Vacuities of this kind indeed are ſuppoſed to be abſolutely neceſſary to motion: for though we may ſay, matter being diviſible almoſt *ad infinitum*, that a body or ſubſtance more ſolid, may move in another ſubſtance that is more ſubtile, and that will give way to its motion, we muſt nevertheleſs have recourſe to a laſt reſort, and admit of an ultimate vacuum, which will give room ſufficient to the leaſt corpuſcle, that its part *A* may take the place of its part *B* without the leaſt reſiſtance: beſides, it is not to be imagined, that nature, in fact, admits of that infinite diviſibility which our imagination can conceive, and that every thing, which is poſſible in idea, is at all times practicable. All that *exiſts* is poſſible, but all that is *poſſible* does not however exiſt. By DENSITY, is underſtood the proportion between the extenſion and ſolidity of a body: one body therefore is more denſe than another, when, under the ſame degree of extenſion, it contains more ſolid matter: this quality ariſes from condenſation and compreſſion. ELASTICITY is nothing more than that effort by which certain bodies, when compreſſed, endeavour to reſtore themſelves to their former ſtate; and this property ſuppoſes them compreſſible. As all theſe natural properties of bodies are of great utility in explaining the principles of phyſics, and in applying them to all the arts, experimental philoſophy proves their reality by ſatisfactory examples.

V. We diſcover ſtill other properties in bodies, ſuch as MOBILITY, which we muſt not here expect to find with MOTION. This mobility ariſes from certain diſpoſitions which are not in an equal degree in all bodies; whence it comes that ſome are more eaſily moved than others: and this proceeds from the reſiſtance to motion which is perceived in all bodies having regard merely to their maſs; and this reſiſtance is called VIS INERTIÆ, or *force*. A body is ſaid to be in motion, when it is actually moving from one place to another; whenever a body changes its ſituation with regard to the objects that ſurround it, either nearly or remotely; it is ſaid to be in motion. There are three principal matters to be conſidered in a moving body; its direction, its velocity, and the quantity of its motion: and here phyſics explains the force of moving power; it likewiſe diſtinguiſhes between ſimple and compound motion. *Simple motion* is that which ariſes from only one force, and which tends to only one point. It deſcribes the laws, and explains the reſiſtance, of mediums; the reſiſtance of friction; the difficulties of a perfect al motion; the alteration of direction occaſioned by the oppoſition of a fluid matter; reflected, or reverberated motion; the communication of motion by the ſhock of bodies, &c. *Compound motion* is that of a body impelled to move by ſeveral cauſes or powers which act according to their reſpective directions. Phyſics here likewiſe investigates the laws of motion; and is particularly applied to the explaining, under this head, what are called the *central forces*, which produce a motion that is either circular or in a curve line, and which inceſſantly urge the moving body either to approach or recede from the centre. To diſtinguiſh theſe from each other, the former is called the *centripetal force*, and the latter the *centrifugal force*.

VI. The powers of ATTRACTION and REPULSION ſeem to be common to all matter, and

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component parts of all ſubſtances are kept in their places by the due balance of theſe oppoſite powers. If, by any means, the particles of any ſubſtance be removed beyond their ſphere of mutual attraction, they repel one another, as thoſe of water when it becomes ſteam. Of the different kinds of attraction, that of GRAVITATION ſeems to extend to the greateſt poſſible diſtance; but that which keeps together the parts of the ſame ſubſtance, thence called the *attraction of coheſion*, and the different kinds of chemical attractions, called *affinities*, only act at a ſmall diſtance. Of the cauſe of theſe attractions we are entirely ignorant. See ATTRACTION.

VII. By GRAVITY, or PONDEROSITY, is to be underſtood that force which occaſions bodies to fall from a higher to a lower place, when nothing oppoſes their courſe, or when the obſtacles are not ſufficient to ſtop them. Speculative philoſophy inveſtigates its cauſe, and perhaps in vain. Experimental philoſophy contents itſelf with deſcribing the phenomena, and teaching the laws of gravity, which are thoroughly eſtabliſhed by a multitude reiterated experiments. In order properly to underſtand this ſubject, we muſt take care not to confound the term *gravity* with that of *weight*. By the former, we underſtand that force which urges bodies to deſcend through a certain ſpace in a given time. By the latter, is meant the quantity of a heavy body that is contained under the ſame bulk. The phenomena are explained by experiments themſelves, and by inferences deduced from them.

VIII. HYDROSTATICS is a ſcience of which the object is the gravity and equilibrium of fluids in particular. Tho' the gravity of theſe bodies is the ſame with that of others, and is ſubject to the ſame laws, yet their ſtate of fluidity gives riſe to particular phenomena, which it is of conſequence to know. But as hydroſtatics cannot be ſucceſsfully treated on without the aſſiſtance of calculation, it has been ranked among the mathematical ſciences. See HYDROSTATICS.

IX. We ſay the ſame with regard to MECHANICS; which is the art of employing, by the help of machines, the motion of bodies, in conformity to its properties and laws, as well with regard to ſolids as fluids, either more commodiouſly or more advantageouſly.

X. After it has made the moſt accurate experiments, and the moſt judicious obſervations, on all theſe different ſubjects, and the properties of bodies in particular, Experimental Philoſophy has recourſe to the examination of the air, the water, the wind, colours, &c. The air is a fluid in which we are ſurrounded from the inſtant of our birth, and without which we cannot exiſt. Struck by the properties and the influences of the air, that nature gives increaſe and perfection to all that it produces for our wants and conveniencies; it is the ſpirit of navigation: ſound, voice, ſmell itſelf, are nothing more than percuſſions of the air: this globe that we inhabit is completely ſurrounded by air; and this kind of coverture, which is commonly called the ATMOSPHERE, has ſuch remarkable functions, that it evidently appears to concur to the mechaniſm of nature. Experimental phyſics, therefore, conſiders the air,

1. Of itſelf, independent of its bulk, and the figure of its whole body: it examines its eſſential properties; as its gravity, denſity, ſpring, &c. The air-pump is here of indiſpenſable uſe; and by this machine phyſics examines in what manner ſpace, or a vacuum, is made. It likewiſe ſhows the neceſſity of air to the preſervation of animal life; the effect it has on ſound, fire, and gunpowder, *in vacuo*; and a hundred other experiments of various degrees of curioſity. 2. It conſiders the air as the terreſtrial atmoſphere, ſometimes as a fluid at reſt, and ſometimes as in motion. And by theſe means it accounts for the variation of the mercury in the barometer, and why it ſinks in proportion as the height of the atmoſphere diminiſhes; as alſo for the figure, the extent, and weight of the atmoſphere: it ſhows the method of determining the height of mountains, the nature of ſound in general, of its propagation, and of ſonorous bodies. The late diſcoveries of Dr Prieſtley and others have added a new and very conſiderable branch to experimental philoſophy in this reſpect. See AEROLOGY.

XI. It is here alſo, that experimental philoſophy conſiders the nature of the WIND; which is nothing more than agitated air, a portion of the atmoſphere that moves like a current, with a certain velocity and determinate direction. This fluid, with regard to its direction, takes different names according to the different points of the horizon from whence it comes, as eaſt, weſt, north, and ſouth. Winds are likewiſe diſtinguiſhed into three ſorts; one of which is called *general* or *conſtant*, as the trade winds which continually blow between the tropics: another is the *periodical*, which always begin and end within a certain time of the year, or a certain hour of the day, as the monſoons, the land breezes, and ſea breezes, which ariſe conſtantly in the morning and evening; and laſtly, ſuch as are *variable*, as well with regard to their direction as their velocity and duration. M. Mariotte computes the velocity of the moſt impetuous wind to be at the rate of 32 feet in a ſecond, and Mr Derham makes it 66 feet in the ſame time. The firſt, doubtleſs, meant the wind of the greateſt velocity that had then come to his knowledge. The invention of aeroſtatic machines has tended more to ſhow the real velocity of the wind than any other invention yet made public: but all of them move ſlower than the aerial current; ſo that the real velocity of the wind remains yet undetermined.

XII. The force of the wind, like that of other bodies, depends on its VELOCITY and *maſs*; that is, the quantity of air which is in motion: ſo the ſame wind has more or leſs force on any obſtacle that oppoſes it, in proportion as that obſtacle preſents a greater or a leſs ſurface: for which reaſon it is, that they ſpread the ſails of a veſſel more or leſs, and place the winds of a wind-mill in different directions. The machines by which the winds are meaſured, are called ANEMOMETERS. They ſhow the direction, the velocity, and the duration of winds. It is by the agitations of the wind that the air is purified; that the ſeeds of trees and herbs are conveyed through the foreſts and fields; that ſhips are driven from one pole to the other; that our mills turn upon their axes,

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axes, &c.; and art, by imitating nature, sometimes procures us artificial winds, by which we refresh our bodies, invigorate our fires, purify our corn, &c.

XIII. WATER is an universal agent, which nature employs in all her productions. It may be considered as in three states, 1. As a liquid; 2. As a vapour; 3. As ice. These three different states do not in any manner change its essence, but make it proper to answer different ends. The natural state of water would be that of a solid body, as fat, wax, and all those other bodies which are only fluid when heated to a certain degree: for water would be constantly ice, if the particles of fire, by which it is penetrated in the temperate climates, did not render it fluid, by producing a reciprocal motion among its parts; and, in a country where the cold is continually strong enough to maintain the congelation, the assistance of art is necessary to make it fluid in the same manner as we do lead, &c. Water, when not in ice, is a fluid that is insipid, transparent, without colour, and without smell, and that easily adheres to the surface of some bodies, that penetrates many, and extinguishes fire. Experimental philosophy investigates the origin of fountains; the cause of the saltness of the sea; the means of purifying water; what is its weight, and what are its effects when heated, &c. It likewise examines this fluid in the state of vapour; and finds that a drop of water, when in vapour, occupies a space vastly greater than it did before. It explains the ÆOLIPILE and its effects; fire engines; and the force of vapours that give motion to immense machines in mines and elsewhere, &c. and lastly, it considers water in the state of ICE. Ice consequently is more cold than water; and its coldness increases if it continue to lose that matter, already too rare, or too little active, to render it fluid. Experimental physics endeavours to investigate the causes of the congelation of water, and why ice is lighter than water; from whence it derives that expansive force by which it breaks the containing vessel; the difference there is between the congelation of rivers and that of standing waters; why ice becomes more cold by the mixture of salts; and many other similar phenomena.

XIV. The nature of FIRE is yet very much unknown to the most learned philosophers. As objects when at a great distance are not perceptible to our senses, so when we examine them too nearly, we discern them but confusedly. It is still disputed whether fire be a homogene, unalterable matter, designed, by its presence, or by its action, to produce heat, inflammation, and dissolution, in bodies; or if its essence consists in motion only, or in the fermentation of those particles which we call *inflammable*, and which enter as principles, in greater or less quantities, in the composition of mixed bodies. The most learned inquirers into nature incline to the former opinion; and to have recourse to a matter which they regard as the principle of fire. They suppose that there is in nature a fluid adapted to this purpose, created such from the beginning, and that nothing more is necessary than to put it in action. The numberless experiments which are daily made in electricity seem to favour this opinion, and to pro that this matter, this fluid, this elementary f is diffused through all nature, and in all bodi even ice itself. We cannot say to what imp tant knowledge this great discovery of electric may lead if we continue our inquiries concern it. It appears, however, that we may belie without any inconvenience or absurdity, that and light, considered in their first principle, one and the same substance differently modi See ELECTRICITY, *Index*.

XV. Be this, however, as it may, experi tal philosophy is employed in making the ingenious and most useful researches concer the nature of fire, its propagation, and the by which its power may be excited or aug ed; concerning the phosphorus and its influ tion; fire excited by the reflection of the rays from a mirror; and on the effects of general; concerning lightning and its effect fusion of metals; gunpowder and its explo flame and the aliments of fire; and an infin like objects which it explains, or concerning it makes new discoveries, by the aid of e ments.

XVI. By the word LIGHT, we underst agent by which nature affects the eye w lively and almost constantly pleasing which we call *seeing*, and by which we the size, figure, colour, and situation of when at a convenient distance. All philo agree, that the light, which is diffused place, is a real body. But what this body by what means it enters that place where it ceived, is a question about which philosoph divided.

XVII. Experimental philosophy is appl discovering or proving, by an infinity of ments, what is the nature of light, in wh ner it is propagated, what are its velocity gressive motion. It also investigates and the principles of OPTICS properly so calle shows the directions which light observes motions. From thence it proceeds to the e of the principles of catoptrics, and describe laws and effects of reflected light. It next of the principles of dioptrics, and explains the of refracted light; and lastly, it teaches, fro principles of natural and artificial vision, the struction of optical instruments, as lenses, co mirrors, prisms, telescopes, &c. &c. and the to which they are applied.

XVIII. By resolving or separating the ra light, philosophy has obtained true and clea coveries of the nature of COLOURS. We a turally led to imagine that colours, and the ferent degrees, make a part of the bodies present them to our sight; that white is inh in snow, green in leaves and grass, and red stuff dyed of that colour. But this is far being true. If an object, which presents a lour to our sight, be not illuminated, it pr no colour whatsoever. In the night all is Colours therefore depend on light; for wi that we could form no idea of them: but depend also on bodies; for of several objects sented to the same light, some appear white thers red, blue, &c. But all these matters be separa

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parate from our own bodies, we ſhould never quire any ideas of them, if the light, tranſmitd or reflected by theſe objects, did not make em ſenſible to us, by ſtriking upon the organs our ſight, and if theſe impreſſions did not re- e in us thoſe ideas which we have been uſed expreſs by certain terms. For theſe reaſons hiloſophy conſiders colours from three points of w. 1. As in the light; 2. In bodies, as being oured; and, 3. From the relation they have r viſual faculties, which they particularly af- ed by which we are enabled to diſtinguiſh

s unneceſſary in this place to ſay more either on colour in particular, or experimental philoſophy in general. The different ſubjects of this collective article are particularly treated under their proper names, in the order of the alphabet: the reader will therefore turn, as he has occaſion, to ACOUSTICS, CATOPTRICS, CHROMATICS, DIOPTRICS, HYDROSTATICS, MECHANICS, OPTICS, PNEUMATICS, ELECTRICITY, MAGNETISM, &c. &c. &c. Alſo AEROLOGY, AEROSTATION, ATMOSPHERE, BURNING-GLASS, COLD, COLOUR, CONGELATION, EVAPORATION, FIRE, FLAME, FLUIDITY, HEAT, IGNITION, LIGHT, SOUND, STEAM, WATER, WIND, &c.

PHI

HILOSOPHY has been diſtinguiſhed by dif- t epithets; partly from its ſubjects, and part- m its Teachers: as,

PHILOSOPHY, ARISTOTELIAN. See ARIELIANS, ARISTOTLE, § 3, and PHILOSOSect. I.

PHILOSOPHY, CARTESIAN. See ASTRONOmer, and CARTESIANS.

PHILOSOPHY, CRITICAL, a name given to Syſtem of *Science*, (if indeed it may be ſo d founded by *Immanuel Kant*, regius pro- Logic and Metaphyſics, in the univerſity igſberg. This ſyſtem, it is ſaid, is very miired in Germany, though for *what*, we much at a loſs to diſcover. "To ex- philoſophy of Kant," (ſays a learned r, who deſcribes it in the *Supp.* to the il.) "in all its details, would require a d painful ſtudy, without producing any ntage to the reader. The language of hor is equally obſcure, and his reaſonings ſubtle, with thoſe of the commentators tle in the 15th century." "The ſource bſcurity (ſays Dr Gleig) is ſufficiently obBeſides employing a vaſt number of words wn invention, derived from the Greek, expreſſions, which have been long fa- metaphyſicians, in a ſenſe different from which they are generally received; and large portion of time is requiſite to enaſt ſagacious mind to aſcertain with the import of his phraſeology. The y of comprehending this philoſophy has outed more than any thing elſe, to bring it ogue, and to raiſe the fame of its author." divides all our knowledge into that which ri, and that which is *a poſteriori*. Know- priori is conferred upon us by Nature. dge *a poſteriori* is derived from our ſenſa- or from experience, and is by our author nated *empyrie*. One would be induced, account, to believe, that Kant intended ve the ſyſtem of *innate ideas*; but ſuch is ſyſtem. He conſiders all our knowledge ired. He maintains that experience is the *al cauſe*, or *productrice* of all our know- and that without it we could not have a idea. Our ideas *a priori*, he ſays, are pro- with experience, but they are not produ- it, or do not proceed *from* it. They exiſt

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in the mind; they are the *forms* of the mind.—*Time* and *ſpace* are two eſſential *forms* of the mind.—*Extenſion* is nothing real but as the *form* of our ſenſations.—*Arithmetic* is derived from the *form* of our internal ſenſe, and *Geometry* from that of our external. Our underſtanding collects the ideas received by the impreſſions made on our organs of ſenſe, confers on theſe ideas *unity* by a particular *force a priori*; and thereby forms the repreſentation of each object. Thus, a man is ſucceſſively ſtruck with the impreſſions of all the parts, which form a particular garden. His underſtanding unites theſe impreſſions, or the ideas reſulting from them; and in the unity produced by that *unifying* act, it acquires the idea of the garden. If the objects, which produce the impreſſions, afford alſo the *matter* of the ideas, then the ideas are *empyric*; but if the objects only unfold the *forms of the thought*, the ideas are *a priori!*" "The writings of Kant are multifarious. The work entitled, *The Critique of Pure Reaſon*, is divided into ſeveral ſections, under the ridiculous titles of *Æſthetic tranſcendental*; of *Tranſcendental Logic*; of *the pure ideas of the underſtanding*; of *the tranſcendental judgment*; of *the paralogiſm of pure reaſon*; of *the ideal tranſcental*; of *the criticiſm of ſpeculative theologies*; of *the diſcipline of pure reaſon*," &c. Such is the wonderful jargon of literary nonſenſe, which of late has attracted the attention of the Literati in Germany. Our readers, we are perſuaded, will think we have given a ſufficient ſpecimen of our profeſſor's *Critical Philoſophy*. We ſhall therefore conclude with a very ſhort ſpecimen of his *theological* and *moral philoſophy*. After arguing, that "The proofs of natural theology, taken from the order and beauty of the univerſe, &c. are proofs only in *appearance*;—that it is *impoſſible* to *know* that God exiſts," and that "the proof of a God is nothing more than the *perſuaſion*, that happineſs is connected with virtue by a Being upon whom nature depends;" he makes the following ſingular remark upon *oaths*: "As it would be abſurd to ſwear, that God exiſts, it is ſtill a queſtion to be determined, whether an oath would be poſſible and obligatory, if one were to make it thus: —*I ſwear on the ſuppoſition, that God exiſts.* It is extremely probable, (adds he,) that all *ſincere* oaths, taken with *reflection*, have been taken in no other ſenſe!—Dr Gleig concludes his account of

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of Kant's extraordinary syſtem, with the following ſummary of his moral principles: "Kant ſeems to contend, that the actions of men ſhould be directed to *no end* whatever; for he expreſsly condemns, as an *end of action*, the purſuit either of our own happineſs, or of the happineſs of others, whether temporal or eternal; but actions performed for no purpoſe are ſurely indications of the very eſſence of folly. Such actions are indeed impoſſible to beings endued with reaſon, paſſions, and appetites; for if there be that beauty in *virtue*, for which Kant and the Stoics contend, it cannot be, but that the virtuous man muſt feel an internal pleaſure, when he performs a virtuous action, or reflects upon his paſt conduct." On the whole, profeſſor Kant's ſyſtem of Critical Philoſophy affords an additional evidence to the many which modern philoſophy affords, of the truth of Cicero's remark, "That there is nothing ſo abſurd, but what has been advanced by ſome philoſopher or other."

4. PHILOSOPHY, EXPERIMENTAL. See PHILOSOPHY, *Part* II.

5. PHILOSOPHY, LEIBNITZIAN. See LEIBNITZIAN PHILOSOPHY.

6. PHILOSOPHY, MORAL. See MORAL PHILOSOPHY.

7. PHILOSOPHY, NATURAL. See NATURAL HISTORY, NATURAL PHILOSOPHY, PHILOSOPHY, and PHYSICS.

PHILOSTORGIUS, an eccleſiaſtical hiſtorian of the 4th century, born in Cappadocia, who wrote an abridgment of eccleſiaſtical hiſtory, in which he treats Athanaſius with ſome ſeverity. This work contains many curious and intereſting particulars. The beſt edition is that of Henry de Valois in Greek and Latin. There is alſo attributed to him a book againſt Porphyry.

(1.) PHILOSTRATUS, Flavius, an ancient Greek author, who flouriſhed between A. D. 290 and 244. He wrote *The Life of Apollonius Tyanæus*, and ſome other tracts ſtill extant. Euſebius calls him an Athenian, becauſe he taught at Athens; but Eunapius and Suidas always ſpeak of him as a Lemnian: and he himſelf hints as much in his Life of Apollonius. He frequented the ſchools of the ſophiſts, particularly Damianus of Epheſus, Proclus Naucratitas, and Hippodromus of Lariſſa. He was one of thoſe learned men whom the philoſophic empreſs Julia Auguſta, wife of Severus, had continually about her. By her command he wrote the Life of Apollonius, as he himſelf informs us. Suidas and Heſychius ſay that he was a teacher of rhetoric, firſt at Athens, and then at Rome, from the reign of Severus to that of Philip, who obtained the empire in 244. Philoſtratus's Life of Apollonius has erroneouſly been attributed to Lucian, becauſe it has been printed with ſome of that author's pieces. Philoſtratus endeavours, as Cyril obſerves, to repreſent Apollonius as a wonderful and extraordinary perſon. (See APOLLONIUS, N° 3.) The ſophiſtical and affected ſtyle of Philoſtratus, the ſources whence his materials have been drawn, and the abſurdities and contradictions with which he abounds, plainly ſhow his hiſtory to be nothing but a collection of fables. His works, however, have engaged the attention of critics of the firſt claſs. A very exact and beautiful edition was publiſhed at Leipſic, 1709, in folio, by Olearius profeſſor of Greek and Latin. A tranſlation into Engliſh was publiſhed by Blount. (See BLOUNT, N° 1.) At the end of Apollonius's Life there are 95 Letters which go under his name. They are not, however, believed to be his; the ſtyle being very affected, and they bear all the marks of forgery. Some of them, though it is not eaſy to determine which, were written by his nephew (ſee N° 2.) as were alſo the laſt 18 in the book of images. This is the reaſon why the title runs *Philoſtrati*, but *Philoſtratorum quæ ſuperſunt omnia*.

(2-4.) PHILOSTRATUS, nephew of the preceding, flouriſhed in the reign of Heliogabalus, wrote an *Account of the Lives of the Sophiſts*, which is extant, and contains many particulars that are to be met with no where elſe. There were other two *Philoſtrati*, both philoſophers, who flouriſhed, the one under Auguſtus, the other under Nero.

PHILOTAS, the name of two generals who fought under Alexander the Great. To the firſt them Cilicia was allotted, on his death. (See CEDON, § 16.) A 3d, who alſo fought bravely under Alexander, was the ſon of Parmenio, and was put to death for conſpiring againſt the monarch; A. A. C. 330. *Plut. Q. Curt.* vi. 11.

PHILOTIS, a ſervant maid at Rome, who ſaved her countrymen from deſtruction. After the ſack of Rome by the Gauls, the Fidenates aſſembled an army, and marched againſt the capital, demanding all the wives and daughters in the city as the only conditions of peace. This demand was refuſed the ſenators; and when they refuſed to comply, Philotis adviſed them to ſend all their female ſlaves diſguiſed in matron's clothes, and ſhe herſelf to march herſelf at their head. Her advice was followed: and when the Fidenates had fallen aſleep in the evening, and were quite intoxicated, Philotis lighted a torch as a ſignal for her countrymen to attack the enemy. The whole was ſucceſsful; the Fidenates were conquered; and the ſenate, to reward the fidelity of the female ſlaves, permitted them to appear in the dreſs of the Roman matrons.

(1.) PHILOXENUS, a dithyrambic poet of Cythera. He enjoyed the favour of Dionyſius tyrant of Sicily for ſome time, till he offended him by ſeducing one of his female fingers. During his confinement he wrote an allegorical poem, called *Cyclops*; in which he delineated the character of the tyrant under the name of *Polyphemus*, and repreſented his miſtreſs under that of *Galatea*, himſelf under that of *Ulyſſes*. The tyrant was fond of poetry and applauſe, liberated Philoxenus; but the poet refuſed to purchaſe his liberty by ſaying things unworthy of himſelf, by applauding the wretched verſes of Dionyſius, and therefore he was ſent to the quarries. Being at liberty, he ſome time after was aſked to dinner at a feaſt about ſome verſes which Dionyſius had juſt repeated, and which the courtiers all received with the greateſt applauſe. Philoxenus gave no anſwer, but he ordered the guards who ſurrounded the tyrant's table to take him back

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he quarries. Dionyſius was pleaſed with his humour and with his firmneſs, and forgave him. Philoxenus died at Epheſus about A. A. C. 380.

(2, 3.) PHILOXENUS, 1. an officer of Alexander, who received Cilicia at the general diviſion of the provinces. He ſeems to be confounded with PHILOTAS. 2. A ſon of Ptolemy, who was given to Lycidas as an hoſtage.

PHILP, James, Eſq. of Greenlaw, a late eminent Scotiſh lawyer, born at Greenlaw, in the pariſh of Hutton-Hall, in Mid Lothnian, and educated under Heineccius, Vitriarius, and other eminent civilians in Germany and Holland. Soon after his return from abroad, he was appointed Judge of the Admiralty Court of Admiralty, an office which he executed with honour to himſelf and advantage to his country. He was remarkable for mildneſs and urbanity, yet no leſs ſo for inflexible rectitude. An inſtance of his ſpirit is recorded in Sir J. Sinclair's *Hiſt. Account.* Vol. XV. p 444, wherein, in a caſe of an apprentice enliſting on board the Sea-Horſe, he committed Captain Palliſer (afterwards Admiral Sir Hugh) for refuſing to deliver up the boy; for which Philp received the public approbation of Lord Chancellor Hardwicke, in 1754.

PHILTER. *n. ſ.* [φιλτρον; *philtre*, French.] Any thing to cauſe love.—

The melting kiſs that ſips
The jellied *philtre* of her lips. *Cleaveland.*

You need not fear a *philter* in the draught.
Dryden.

Any *philter* that has neither drug nor enchantment in it. *Addiſon.*

PHILTER is derived from the Greek, φιλεω, or φιλος, *a lover*. Philters are diſtinguiſhed into *true* and *ſpurious*, and were given by the Greeks and Romans to excite love. (See LOVE, Part II.) The ſpurious are ſpells or charms, ſuppoſed to have an effect beyond the ordinary laws of nature, by ſome magic virtue; ſuch are thoſe ſaid to be given by old women, witches, &c.—The true philters are thoſe ſuppoſed to work their effect by the natural and magnetical power. Many grave authors have believed the reality of theſe philters, and quoted facts in confirmation of their ſentiments. Among the reſt, VAN HELMONT. But all theſe, whatever facts may be alleged, are mere fables.

PHILTER, or PHILTRE, [*Philtrum*], in pharmacy, &c. a ſtrainer.

To PHILTER. *v. a.* [from the noun.] To charm to love.—Let not thoſe that have repudiated more inviting ſins, ſhew themſelves *philtered* and bewitched by this. *Gov. of Tongue.*

PHYLICA, in botany. See PHYLICA.

PHYLIPPEAUX. See PHILIPPEAUX.

PHILYRA, in fabulous hiſtory, one of the Oceanides, whom Saturn met in Thrace. The god, eſcaping from the vigilance of Rhea, changed himſelf into a horſe, to enjoy the company of Philyra, by whom he had a ſon, half a man and half a horſe, called CHIRON. Philyra was ſo aſhamed of her birth to ſuch a monſter, that ſhe entreated the gods to change her nature. She was accordingly metamorphoſed into a tree, called by ſome among the Greeks.

PHILYRES, an ancient people, near Pontus.

PHILYRIDES, a name of CHIRON.

PHIMOSIS, or rather PHYMOSIS. See MEDICINE, and SURGERY, *Indexes*.

PHINEAS, or } or, as the Jews pronounce it,
PHINEHAS, } PINCHAS, the ſon of Eleazar, and grandſon of Aaron. He was the third high prieſt of the Jews, and diſcharged this office from A. M. 2571, till 2590. He is particularly commended in Scripture for the zeal he ſhowed for the preſervation of his countrymen from idolatry, on two different occaſions; as recorded, in Num. xxv. 7–15; and Joſh. xxii. 13–34. The juſt vengeance he executed on Zimri, a prince of Simeon, and Cozbi, a princeſs of Midian, happened A. M. 2553. The dignity of the high prieſthood continued in the race of Phinehas, from AARON down to the high-prieſt ELI, for about 335 years; when it was forfeited by the wickedneſs of Eli's ſons. It returned, however, again into the family of Eleazar in the reign of Saul, who, having killed Abimelech, and the other prieſts and people of Nob, (ſee DOEG,) gave the high prieſthood to Zadok, of the race of Phinehas. At the ſame time, David had Abiathar with him, of the race of Eli, who performed the functions of high prieſt. So that after the death of Saul, David continued the prieſthood to Zadok and Abiathar conjointly. But towards the end of David's reign, Abiathar having joined in the conſpiracy of ADONIJAH, to the prejudice of Solomon, he was diſgraced, and Zadok only was acknowledged as high prieſt. The prieſthood continued in his family till after the captivity of Babylon, and even to the deſtruction of the temple. But from the beginning of Zadok's prieſthood alone, and the excluſion of Abiathar, to the ruin of the temple, is 1084 years. As Phinehas lived after the death of Joſhua, and before the firſt ſervitude under Cuſhan-riſhathaim, during the republic; (Judges xvii 6. xviii. 1. xx. 24.) his death is ſuppoſed to have happened A. M. 2590. It was under his pontificate that the robbery of Micah happened; that the tribe of Dan made a conqueſt of Laiſh; and the enormity was committed upon the wife of the Levite. (Judges xx. 28.) Phinehas's ſucceſſor in the high prieſthood was Abiezer, or Abiſhuah. The Rabbins allow a very long life to Phinehas. Some ſay he lived to the time of the high prieſt Eli, or even to that of Samſon.

PHINEUS, in fabulous hiſtory, was ſon of Agenor, king of Phœnicia, or according to ſome of Neptune. He became king of Thrace, or Bythinia. He married Cleopatra or Cleobula, the daughter of Boreas, by whom he had Plexippus and Pandion. After her death, he married Idæa or Idothæa, the daughter of Dardanus. Idæa, jealous of his former wife's children, accuſed them of attempts upon their father's life and crown, or, as others aſſert, of attempts upon her virtue; on which they were condemned by Phineus to be deprived of their eyes. This cruelty was ſoon after puniſhed by the gods; for Phineus ſuddenly became blind, and the Harpies were ſent by Jupiter to keep him in continual alarm, and to ſpoil the meats on his table. He was afterwards delivered from theſe monſters by his brothers-in-law Zetes and Calais, who purſued them as far as the Strophades. He likewiſe recovered his ſight by means of the Argonauts, whom he had received with

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great hoſpitality, and whom he inſtructed in the eaſieſt and ſpeedieſt way of arriving in Colchis. He was killed by Hercules.

PHINTIA, an ancient town of Sicily, at the mouth of the Chimæra. *Cicero, in Verr.*

PHINTO, an iſland between Sardinia and Corſica, now called *Figo*.

PHIPPS, Conſtantine-John, Lord *Mulgrave*, and F. R. S. a late celebrated Britiſh navigator, born in 1746. He was great-grandſon of Conſtantine Phipps, lord chancellor of Ireland in 1714, and ſon of Conſtantine, the 1ſt lord Mulgrave, by Catharine daughter of the E. of Angleſea. He ſucceeded his father in 1775. He entered young into the naval ſervice, under his uncle, the E. of Briſtol. He was elected M. P. for Lincoln, and became an able ſpeaker. He was alſo eminent as a naval commander, and made a *Voyage to the North Pole*, from June 4, to Sept. 24, 1773, to determine how far navigation was practicable to the North Pole; an accurate account of which he publiſhed in 1774. He is alſo ſaid to have written the maſterly Introduction to Capt. Cook's laſt Voyage. He married Anne-Elizabeth, daughter of Nath. Cholmondeley, Eſq. of Houſham, in Yorkſhire, June 20, 1787; a rich heireſs, who died in 1788, leaving a daughter. He was created a Britiſh Peer, June 17, 1790; and died at Leige, October 10, 1792; leaving a large fortune, and the moſt complete library in England, for all works on Naval Science.

PHIRSOVA, two towns of Ruſſia: 1. in Irkutſk, on the Amur, 20 miles N. of Stretenſk; 2. in Tobolſk, 20 miles ENE. of Iſchim.

* PHIZ. *n. ſ.* [This word is formed by a ridiculous contraction from *phyſiognomy*, and ſhould therefore, if it be written at all, be written *phyz.*] The face, in a ſenſe of contempt.—

His air was too proud, and his features amiſs,
As if being a traitor had alter'd his *phiz*.
Stepney.

PHLA, an iſland in lake Tritonis. *Herod.* iv.

* PHLEBOTOMIST. *n. ſ.* [*phlebotomiſte*, Fr. from φλεψ and τεμνω.] One that opens a vein; a bloodletter.

* *To* PHLEBOTOMIZE. *v. a.* [*phlebotomiſer*, Fr. from *phlebotomy*.] To let blood.—The frail bodies of men muſt be *phlebotomized*. *Howel.*

(1.) * PHLEBOTOMY. *n. ſ.* [φλεβοτομια φλεψ, φλεβος, vena, and τεμνω; *phlebotomie*, Fr.] Bloodletting; the act or practice of opening a vein for medical intentions.—*Phlebotomy* is not cure, but miſchief; the blood ſo flowing as if the body were all vein. *Holyday.*—In indiſpoſitions of the liver or ſpleen, conſiderations are made in *phlebotomy* to their ſituation. *Brown.*—Pains from the ſpending of the ſpirits, come neareſt to the copious and ſwift loſs of ſpirits by *phlebotomy*. *Harv.*

(2.) PHLEBOTOMY. See LANCET, § 2; and SURGERY, *Index*.

PHLEGELAS, an Indian monarch beyond the Hydaſpes, who ſurrendered to Alexander. *Q. Curt.* 9. 1.

PHLEGETHON, [φλεγεθω, Gr. *i. e.* burning.] in mythology, a river of Hell, whoſe waters flamed. *Virg. Æn.* vi. 550.

(1.) * PHLEGM. *n. ſ.* [φλεγμα; *phlegme*, Fr.] 1. The watery humour of the body, which, when it predominates, is ſuppoſed to produce ſluggiſhneſs or dullneſs.—

Write with fury, but correct with *phlegm*.
Roſcommon.

Our critics take a contrary extreme,
They judge with fury, but they write with *phleg'm*. *Pope.*

Let melancholy rule ſupreme,
Choler preſide, or blood or *phlegm*. *Swift.*

2. Water among the chymiſts.—Linen cloth, ſteeped in ſpirit of wine, is not burnt by the flame, becauſe the *phlegm* of the liquor defends the cloth. *Boyle.*

(2.) PHLEGM, in the animal economy, was one of the four humours whereof the ancients ſuppoſed the blood to be compoſed. The chemiſts make phlegm or water an elementary body; the characters of which are fluidity, inſipidity, and volatility.

(1.) * PHLEGMAGOGUES. *n. ſ.* [φλεγμα and αγω; *phlegmagogue*, Fr.] A purge of the milder kind, ſuppoſed to evacuate phlegm, and leave the other humours.—*Phlegmagogues* muſt evacuate. *Floyer.*

(2.) PHLEGMAGOGUES, in medicine, comprehend hermodactyls, agaric, turbith, jalap, &c.

PHLEGMASIÆ, an order of diſeaſes, in Dr. Cullen's ſyſtem of phyſic. See MEDICINE, *Ind.*

(1.) * PHLEGMATICK, *adj.* [φλεγματικος; *phlegmatique*, French, from *phlegm*.] 1. Abounding in phlegm.—The putrid vapours, though exciting a fever, do colliquate the *phlegmatick* humours of the body. *Harvey.*—Chewing and ſmoking of tobacco is only proper for *phlegmatic* people. *Arbuthnot.* 2. Generating phlegm.—A neat's foot, I fear, is too *phlegmatick* a meat. *Shakeſpeare.*—Negroes tranſplanted into cold and *phlegmatick* habitations, continue their hue. 3. Watery.—Spirit of wine, diſtilled often from ſalt of tartar, grows by every diſtillation more and more aqueous and *phlegmatick*. *Newton.* 4. Dull; coldly; frigid.—The inhabitants are of a heavy *phlegmatick* temper. *Addiſon.*—

To leave the boſom of thy love,
For any *phlegmatic* deſign of ſtate. *Southern.*

(2.) *A* PHLEGMATICK HABIT, among phyſicians, is ſuppoſed to give riſe to catarrhs, coughs, &c.

(1.) * PHLEGMON. *n. ſ.* [φλεγμονη.] An inflammation; a burning tumour.—*Phlegmon*, or inflammation is the firſt degeneration from good blood. *Wiſeman.*

(2.) PHLEGMON, PHLEGMONE. } See MEDICINE, *Index*.

* PHLEGMONOUS. *adj.* [from *phlegmon*.] Inflammatory; burning.—It is generated ſecernedly out of the dregs and remainder of a *phlegmonous* or œdematick tumour. *Harvey.*

PHLEGON, ſurnamed *Trallianus*, was born at Trallis, a city of Lydia. He was the emperor Hadrian's freed man, and lived to the 18th year of Antoninus Pius. He wrote ſeveral works of great erudition, of which we have nothing left but fragments. Among theſe was a Hiſtory of the Olympiads, A Treatiſe of Long-lived Perſons, and another of Wonderful Things. The titles of part of the reſt of Plegon's writings are preſerved by

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luidas. It has been ſuppoſed that the Hiſ- of Hadrian publiſhed under Phlegon's name, written by Hadrian himſelf. A paſſage, quot- y Euſebius from one of his works, reſpecting traordinary eclipſe of the ſun, attended by rthquake, has been ſuppoſed to allude to larkneſs and earthquake that happened at aviour's paſſion. But this has been diſput- nong the learned; Whiſton and others ta- the affirmative, and Sykes the negative.

LEGRA. See PALLENE.

LEGYÆ, an ancient people of Theſſaly, nder their leader PHLEGYAS, plundered and the temple of Apollo at Delphi. A few of afterwards ſettled at Phocis. *Paſ.* ix. 36. ll. 13.

LEGYAS, in fabulous hiſtory, a ſon of king of the Lapithæ in Theſſaly, and fa- f IXION, and of CORONIS, the mother of ULAPIUS, by Apollo. Phlegyas, in revenge s daughter's diſgrace, collected an army of legyæ, and plundered and burnt Apollo's e; for which Apollo killed him and placed hell, with a large ſtone ready to fall on ad. *Paſ.* ix. 36. *Ovid. Met.* v. 87.

HLEME. *n. ſ.* [from *phlebotomus*, Lat.] A ſo it is commonly written; an inſtrument is placed on the vein and driven into it blow, particularly in bleeding horſes.

LEOS. See PHEOS.

LEUM, in botany, CAT'S-TAIL GRASS, a of the Digynia order, belonging to the ia claſs of plants; and, in the natural me- anking under the 4th order, *Gramina*.

LAS, the ſon of Bacchus and Ariadne, one Argonauts. *Pauſ.* ii. 12.

LUS, [gen. *untis*.] Three ancient towns: eloponneſus, in Sycion, now called STA- A: 2. in Elis: 3. in Argolis, now called NI.

OEUS, an epithet of BACCHUS.

OGISTIC, *adj.* [from *phlogiſton*.] Inflam- ; of or belonging to phlogiſton, or in- bility. In this ſenſe it is uſed by Dr CUL- f inflammatory diſeaſes. See MEDICINE, Dr BROWN, alſo in his firſt edition of his *ta Medicinæ*, uſed this word in a ſenſe ſome- miliar, and the oppoſite term *Anti-phlogiſ-* diſeaſes of debility; but he afterwards d theſe terms to STHENIC and ASTHENIC e proper to expreſs diſeaſes of ſtrength akneſs. See BRUNONIAN SYSTEM, § 4.

OGISTICATED, *adj.* in chemiſtry, im- ted with the imaginary principle of PHLO- ; a word now nearly obſolete, the prin- pon which it was founded being found

PHLOGISTON. *n. ſ.* [φλογιστος, from φλεγω.] emical liquor extremely inflammable. 2. flammable part of any body.

PHLOGISTON (§ 1. *Def.* 2.) was a term ly uſed by chemiſts, to expreſs a principle was ſuppoſed to enter the compoſition ous bodies, but which is now exploded, oved to have no exiſtence. The bodies were thought to contain it, in the largeſt ty, are the inflammable ſubſtances; and the property which theſe ſubſtances poſſeſs of being ſuſceptible of inflammation was thought to depend on this principle; and hence it was ſometimes called the *Principle of* INFLAMMABILITY. Inflammation, according to this doctrine was the ſeparation of *this principle*, or *phlogiſton*, from the other matter which compoſed the combuſtible body. As the emiſſion of *light* and *heat*, always attended its ſeparation, the chemiſts concluded that it was light and heat combined with other matter in a peculiar manner, or that it was ſome highly elaſtic and very ſubtile matter, on certain modifications of which heat and light depended. But its exiſtence, as a chemical principle in the compoſition of bodies is now fully proved to be falſe. Sir Iſaac Newton was the firſt who eſtabliſhed chemiſtry on ſcientific ground. From his time till the middle of the 18th century, no real improvement was made. The progreſs this ſcience has made ſince that period is owing to the important diſcovery of the exiſtence of HEAT in a ſtate of compoſition with other matter. Heat thus combined loſes its activity, or becomes inſenſible, juſt as acids, or any other active ſubſtance loſe their apparent qualities in compoſition. Heat, in this combined ſtate, was called by its ingenious diſcoverer, Dr Black, *latent* heat, and it was found to be very abundant in the atmoſphere, which owes its exiſtence as an elaſtic fluid to the quantity of latent heat that it contains. After this diſcovery, Dr Crawford, conſidering that air was abſorbed by a burning body, concluded that the heat which appears in the combuſtion of a combuſtible body, is the heat that had before exiſted in the air which was conſumed by the burning body. M. LAVOISIER and others, proſecuting this inquiry, found that the combuſtible body, while it is burning, unites with the baſis of the air, and that the heat which the air contained, and which was the cauſe of the air exiſting in the ſtate of air, is expelled. This abſorption of the baſis of the air by the burning body, and the reduction of this baſis to a ſolid form, accounts for the increaſe of weight which a body acquires by burning; or, in other words, gives a reaſon why the matter into which a combuſtible body is converted by combuſtion, is heavier than the body from which it was produced. The ſame abſorption of air is obſervable, when a metal is converted into a calx, and the additional weight of the calx is found to be preciſely equal to the weight of the air abſorbed during the calcination. On theſe principles, therefore, we now explain the phenomena in a much more ſatisfactory manner, than by the ſuppoſition of phlogiſton, or a principle of inflammability. This theory is more fully elucidated under ſeveral other articles in this work. See CHEMISTRY, *Index*; FLAME, HEAT, INFLAMMATION, OXYGEN, &c.

PHLOGONIÆ, a claſs of compound, inflammable, and metallic foſſils, found in ſmall maſſes of determinately angular figures; comprehending the pyricubia, pyroctogonia, and pyripolygonia.

PHLOGOSIS. See MEDICINE, *Index*.

PHLOMIS, the SAGE TREE, or *Jeruſalem Sage*; a genus of the gymnoſpermia order, belong-

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ing to the didynamia class of plants: and in the natural method ranking in the 42d order, *Verticillatæ*. There are 14 species, all of which have perennial roots, and of many the stalks also are perennial. The latter rise from two to five or six feet high; and are adorned with yellow, blue, or purple flowers in whorls. They are all ornamental plants; and deserve a place in gardens, as they are sufficiently hardy to endure the ordinary winters in this climate: they require, however, a pretty warm situation. There are two species peculiarly adapted to the shrubbery, viz.

1. PHLOMIS FRUCTICOSA, a native of Spain and Sicily. Of this there are 3 varieties, 1. The *broad-leaved Jerusalem Sage tree*, is now very common in our gardens. Its beauty is great, and its culture very easy. It grows to about 5 feet high, and spreads its branches without order all around. The older branches are covered with a dirty, greenish, dead, falling, ill-looking bark; and this is the worst property of this shrub; but the younger shoots are white and beautiful; they are four-cornered, woolly, and soft to the touch. The leaves are roundish, oblong, and moderately large; these grow opposite at the joints of the shrub on long foot-stalks. They are hoary to a degree of whiteness, and their foot-stalks are woolly, white, tough, and strong. The flowers are produced in June, July, and August, at the top joints of the young shoots, in large whorled bunches. They are labiated, each consisting of two lips, the upper end forked, and bending over the other. The colour is a most beautiful yellow, and being large, they exhibit their golden flowers at a great distance. 2. The *narrow-leaved Jerusalem Sage tree*, is of lower growth than the other, seldom rising higher than a yard or 4 feet. This shrub is in every respect like the other; only the shoots have a more upright tendency. The leaves also are narrower, and more inclined to a lanceolate form: they are numerous in both sorts, and hide the deformity of the bark on the older stems. In short, these sorts are qualified for shrubberies of all kinds, or to be set in borders of flower-gardens, where they will flower and be exceeded by very few shrubs. 3. The *Cretan Sage tree*, is still of lower growth than either of the former, seldom arising to a yard in height. The leaves are of the same white hoary nature; they are very broad, and stand on long foot-stalks. The flowers are of a delightful yellow colour, very large, and grow in large whorls, which give the plant great beauty.

2. PHLOMIS PURPUREA, *Purple Phlomis*, or *Portugal Sage*, is 4 feet high; the stalks are woody, and send forth several angular branches, which are covered with a white bark. The leaves are spear-shaped, oblong, woolly underneath, crenated, and grow on short footstalks. The flowers are produced in whorls from the joints of the branches. They are of a deep purple colour, and have narrow involucra. They appear in June and July, but are not succeeded by ripe seeds in England. There is a variety of this species with iron-coloured flowers, and another with flowers of a bright purple. There are some other shrubby sorts of phlomis, of great beauty; but these not only often lose their leaves, and even branches, from the first frost, but are frequently wholly destroyed, if it happens to be severe. They are low shrubs, very beautiful, and look well among perennial flowers, where they will not only class as to size with many of that sort, but, being rather tender, may with them have such extraordinary care as the owner may think proper to allow them. The propagation of the above sorts is very easy, and is accomplished either by layers or cuttings. 1. If a little earth be thrown upon the branches any time in the winter, they will strike root and be good plants by the autumn following, fit for any place. The easy is the culture by that method. 2. The cuttings will also grow, if planted any time of the year. Those planted in winter should be of woody shoots of the former summer: These should be set close in a shady border; and being watered in dry weather, will often grow. This shrub may be propagated by young slips also, in any of the summer months. These should be planted in a shady border, like sage, and well watered. If the border is not naturally shady, the beds must be hooped, and covered with matting in hot weather. Watering must be constantly afforded them; and with this care and management many of them will grow.

PHLOX, the LYCHNIDEA, or *Basard Lychnis*, a genus of the monogynia order, belonging to the pentandria class of plants; and, in the natural method, ranking under the 20th order *Rotaceæ*. There are 7 species, all natives of N. America. They have perennial roots, from which arise herbaceous stalks from nine inches to two feet in height, adorned with tubulated flowers of a purple colour. They are propagated by offsets, and will bear the winters in this country. They require a rich soil, in which they thrive better and grow taller than in any other.

PHLYCTENÆ, *n. s.* in medicine, small pustulations on the skin.

PHOBETOR. [from φοβεω, to terrify.] In mythology, one of the sons of SOMNUS, and prime minister. His office was to terrify men during sleep, by appearing to them in the form of a wild beast or serpent. *Ovid. Met.* xi. 640.

PHOCA, in zoology, a genus of quadrupeds of the order of feræ. There are six sharp-pointed fore teeth in the upper jaw, the 2 outermost of which larger; and 4 blunt, parallel, distinct, equal teeth in the under jaw. There is but one tooth, and 5 or 6 three-pointed grinders; and the hind legs are united so as to resemble a fish's tail; are stretched much backwards, and bound together. Mr Kerr enumerates 19 species, and 3 varieties.

1. PHOCA AUSTRALIS, the *Falkland Seal*, has short pointed external ears, and inhabits the Falkland Isles. The colour is cinereous; the hairs tipt with a dirty white; the nose is short, and set with strong black bristles; the fore feet have no claws; the hind paws have 4 long claws. The animal measures 4 feet.

2. PHOCA BARBATA, the *great seal*, has white whiskers with curled points. The back arched; black, very deciduous, and very thinly dispersed over a thick skin, which is almost naked in summer. The teeth of this species are like those of the common seal; (N° 18.) the fore

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re like the human hand, the middle toe being the ongeſt and the thumb ſhort. They are upwards of 12 feet long. The Greenlanders cut out of the kin of this ſpecies thongs and lines, a finger thick, or the ſeal finery. Its fleſh is as white as veal, and eſteemed the moſt delicate of any. They produce plenty of lard, but very little oil. The ſkins of the young are ſometimes uſed to lie on. They habit the high ſea about Greenland, are very mid, and commonly reſt on the floating ice. The females breed about March, and bring forth ach a ſingle young one on the ice, generally a- ong the iſlands. The old ones ſwim very ſlowly. On the N. coaſt of Scotland is found a ſpecies 12 et long. A young one, 7½ feet long, was own in London ſome years ago, which was ſo from maturity as to have ſcarcely any teeth: the common ſeals have them complete before y attain the ſize of ſix feet, their utmoſt growth. e of this ſpecies, larger than an ox, was found the Kamtſchatcan ſeas from 56° to 64° lat. N. ed by the natives *Lach-tak*. They weighed lb. and were eaten by Bering's crew; but their was loathſome. The cubs are entirely black.

Phoca Chilensis, the *Chileſe Seal*, has a ſmall ſnout, external ears, and 5 toes to each t. It inhabits the coaſts of Chili and Juan ndez.

Phoca Cristata, *the Klapmus*, or *Hooded* of Pennant, has a creſt on the fore part of the the body is of a gray colour, having a thick of black wool, interſperſed with white hairs. large animal, and has a ſtrong folded ſkin fore-head, falling over its eyes and noſe. ſpecies inhabits the S. coaſts of Greenland, Iceland and Newfoundland.

Phoca Fasciata, the *Harnaſſed Seal*, or *Seal* of Pennant, is of a blackiſh colour, ked with yellow ſtripes reſembling *harneſs* the neck, along the ſides, and haunches. inhabit the Kurile Iſles.

Phoca Groenlandica, *the Swartſide*, rleben, the *Attaryoak* of Crautz, or *Harp* Pennant, has a ſmooth head, no external the body grey, with a black ſemilunar mark ide. Both fore and hind paws have diſ- nails; the head is black and pointed; the rt and horizontal. The animal is 9 feet They inhabit Greenland, Newfoundland, , the White Sea, the Frozen Ocean and tſchatka. The ſkin is good and the oil much ed.

Phoca Groenlandica Nigra, *the Bed-* is a blackiſh variety of the above.

Phoca Hispida, or Phoca Foetida, *the* , or *rough ſeal*, is diſtinguiſhed by a ſhort and ſhort round head; a body almoſt cliſp- covered with lard almoſt to the hind feet. ſpecies ſeldom exceeds 4 feet in length. hairs are cloſely ſet together, ſoft, long, and what erect, intermixed with curled. They a duſky colour; mixed with white, which times varies to white, with a duſky dorſal They never frequent the high ſeas, but keep fixed ice in the remote bays near the fro- n; and when old never forſake their haunts. y couple in June, and bring forth in January the ice. In that cold ſituation they have a hole for fiſhing; near which they generally remain ſolitary, being rarely found in pairs. They often ſleep on the ſurface of the water, and thus become an eaſy prey to the eagle. They feed on ſmall fiſh, ſhrimps, &c. The ſkin, tendons, and lard, are uſed in the ſame way with thoſe of other ſeals. The fleſh is red and fœtid, eſpecially in males, which is naufeated even by the Greenlanders.

ii. Phoca Hispida Quadrata, or *Newfoundland Seal* is a larger variety of the above, called by the ſeal-hunters in Newfoundland, the *ſq are phipper*. It weighs 500 lb. Its coat is like that of a water dog; ſo that it appears by the length of its hair to be allied to this ſpecies; but the vaſt difference in ſize admits not of that deciſion.

8. Phoca Jubata, *the Maned Seal*, of Schreber, or *Leonine Seal* of Pennant, inhabits the coaſts of the N. Pacific Ocean, W. coaſt of America, Falklands Iſlands, Patagonia, Kamtſchatka, and the Kurile Iſles. The colour is reddiſh; the males are ſometimes 25 feet long, weigh 15 or 1600 lb and have a long flowing mane on their necks. Their voice is like that of a bull; the head is large, noſe ſhort and turned up; with large, ſtrong whiſkers; the eyes are large, the fore feet black, reſembling fins, without toes; the hind feet very broad, with ſmall nails, and very ſhort tails. They live in families, each male having many females, about which they often quarrel and fight.

9. Phoca Laniger, or Phoca Leporina, the *leporine ſeal*, of Pennant, has hair of a dirty white colour, tinged with yellow, but never ſpotted. The hairs are erect, interwoven, and ſoft like thoſe of a hare, eſpecially in thoſe of the young. The head is long; the upper lip ſwelling and thick; the whiſkers very ſtrong and very thick, ranged in 15 rows, covering the whole front of the lip, ſo that it appears bearded; the eyes are blue, and the pupil black; the teeth are ſtrong; the fore-feet ſhort; the membranes of the hind feet even and not waved; the tail is ſhort and thick, it being 4 inches two lines in length; the cubs are of a milk white colour. The length of the ſpecies is about ſix feet ſix inches, and the circumference where greateſt 5 feet 2. This ſpecies inhabit the White Sea in the ſummer time, and aſcend and deſcend the rivers with the tide in queſt of prey. They are likewiſe found on the coaſts of Iceland, and within the polar circle from Spitzbergen to Tchutki Noſs, and thence S. about Kamtſchatka.

10. Phoca Leonina, the *ſea lion* of Anſon, the *ſea wolf* of Pernetty, or the *bottle noſe* of Pennant, is found near the S. pole. One variety of this ſpecies is deſcribed at ſome length by the publiſher of Anſon's voyage. Of theſe we have the following account from Pernetty's Hiſtorical Journal. "The hair that covers the back part of the head, neck, and ſhoulders, is at leaſt as long as the hair of a goat. It gives this amphibious animal an air of reſemblance to the common lion of the foreſt, excepting the difference of ſize. Theſe ſea-lions are 25 feet in length, and from 19 to 20 in circumference. Thoſe of the ſmall kind have a head reſembling a maſtiff's, with cloſe cropt ears. The teeth of thoſe which have manes, are much larger and more ſolid than thoſe of the reſt. In theſe, all the teeth in the jaw-bone are hollow. They have

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have only four large ones, two in the lower and two in the upper jaw. The reſt are not even ſo large as thoſe of a horſe. They inhabit the coaſts of Chili, New Zealand, Juan Fernandez, Falkland Iſles, and New Georgia. Theſe ſea lions that have manes are not more miſchievous or formidable than the others. They are equally unwieldy and heavy in their motions; and are rather diſpoſed to avoid than to fall upon thoſe who attack them. Both kinds live upon fiſh and water fowls, which they catch by ſurpriſe. They bring forth and ſuckle their young ones among the corn flags, where they retire at night, and continue to give them ſuck till they are large enough to go to ſea. In the evening they aſſemble in herds upon the ſhore, and call their dams in cries ſo much like lambs, calves and goats, that, unleſs appriſed of it, one would eaſily be deceived. The tongues of theſe animals are very good eating. The oil which is extracted from their greaſe is of great uſe. It is preferred to that of the whale; it is always clear, and leaves no ſediment. The ſkins of the ſea-lions are chiefly uſed in making portmanteaus, and in covering trunks. When they are tanned they have a grain almoſt like Morocco. They are not ſo fine, but are leſs liable to tear, and keep freſh a longer time. They make good ſhoes and boots, which, when well ſeaſoned, are waterproof.

11. PHOCA MACULATA, the *ſpotted ſeal* of Pennant, inhabits the Kurile Iſles, and the ſeas of Kamtſchatka. The body is ſpotted with brown.

12. PHOCA MONACHUS, the *hooded ſeal*, or *Mediterranean ſeal* of Pennant, inhabits chiefly the coaſt of Dalmatia. It has no external ears; only 4 cutting teeth in each jaw; the fore paws are not divided; the hinder paws have no nails. The ſkin of it folds like a *Monk's hood*, whence the names. The body is 8 feet 7 inches long, and 5 feet round.

13. PHOCA MUTICA, the *long-necked ſeal* of Pennant; has a ſlender body, and no claws on the fore feet, which reſemble fins.

14. PHOCA NIGRA, the *black ſeal* of Pennant, has a peculiar, but undeſcribed, conformation of the hind legs. They inhabit the coaſt of the Kurile Iſles.

15. PHOCA PUNCTATA, the *ſpeckled ſeal* of Pennant, is elegantly ſpeckled all over the body, head, and limbs. They inhabit the ſeas of Kamtſchatka and the Kurile Iſles.

16. PHOCA PUSILLA, the *little ſeal* of Schreber, Pennant, and Buffon; the Φωκη of Ariſtotle; the *vitulus marinus* of Pliny, and *ſea calf* of Dampier; has a ſmooth head, and the rudiments of external ears; the body is brown, and meaſures 2 feet 2 inches.

17. PHOCA TESTUDO, the *tortoiſe-headed ſeal* of Pennant, has a head like that of a tortoiſe, a ſlender neck, and feet like thoſe of the common ſeal. It is found on the coaſts of many places of Europe.

18, i. PHOCA VITULINA, the *ſea calf*, or common SEAL, inhabits the European ocean. It has a ſmooth head without external ears; and the common length is from 5 to 6 feet. The fore legs are deeply immerſed in the ſkin of the body: the hind legs are placed in ſuch a manner as to point directly backwards: every foot has 5 toes, connected by a ſtrong and broad web, covered on both ſides with ſhort hair. The toes are furniſhed with ſtrong claws, well adapted for climbing the rocks: the claws on the hind feet are ſlender and ſtraight; but at the ends a little incurvated. The head and noſe are broad and flat, like thoſe of the otter; the neck ſhort and thick; the eyes large and black; in lieu of external ears, it has two ſmall orifices: the noſtrils are oblong: on each ſide the noſe are ſeveral long ſtiff hairs: and above each eye are a few of the ſame kind. The form of the tongue is very ſingular, being forked or ſlit at the end. The cutting teeth are 6 in the upper jaw, and only 4 in the lower. It has two canine teeth above and below, and on each ſide of the jaw five grinders; in all 34. The whole body is covered with ſhort hair, very cloſely laid together: the colour of that on the body is generally duſky, ſpotted irregularly with white; on the belly white: but ſeals vary greatly in their colours: ſome have been found entirely white. The ſeal is common on moſt of the rocky ſhores of Great Britain and Ireland, eſpecially on the N. coaſts: in Wales, it frequents the coaſts of Carnarvonſhire and Angleſey. They inhabit all the European ſeas, even to the extreme north; are found far within the arctic circle, in the ſeas of Europe and Aſia, and even thoſe of Kamtſchatka. They prey entirely on fiſh, and never miſs the ſea fowls, for numbers of each are often ſeen floating on the waves, as if in company. They eat their prey beneath the water; and when devouring any very oily fiſh, the place is known by the ſmoothneſs of the waves immediately above. They are excellent ſwimmers, ready divers, and very bold when in the ſea, ſwimming carelleſly about boats: their dens are in caverns near the ſea, but out of the reach of the tide: in ſummer they will come out of the water, to bask in the ſun on large rocks; and that is the opportunity our countrymen take of ſhooting them: if they chance to eſcape, they haſten towards their proper element, flinging ſtones and dirt behind them as they ſcramble along: and expreſſing their fear by piteous moans: but if they be overtaken, they will make a vigorous defence with their feet and teeth till they are killed. They are taken for the ſake of their ſkins, and for the oil their fat yields: the former ſell for 4s. or 4s. 6d. a-piece; which, when dreſſed, are very uſeful in covering trunks, making waiſtcoats, pouches, &c. The fleſh of theſe animals, and even of porpoiſes, formerly found a place at the tables of the great; as appears from the bill of fare of that vaſt feaſt that Abp. Nevill gave in the reign of Edward IV. They couple about April, on ſmall iſlands near the ſhore; and bring forth in thoſe vaſt caverns that are numerous on our coaſts: they commonly bring two at a time, which in their infant ſtate are covered with a whitiſh down or woolly ſubſtance. In Oct. and Nov. the ſeal-hunters of Caithneſs enter the mouth of the caverns about midnight, and rowing up as far as they can, they land; each of them being provided with a blunderbuſs, and properly ſtationed, they light their torches, and make a great noiſe, which brings down the ſeals from the farther end in a confuſed body

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ody with fearful ſhrieks and cries: at firſt the
en are obliged to give way for fear of being o-
erborn; but when the firſt crowd is paſt, they
ill as many as ſtraggle behind, chiefly the young,
ſtriking them on the noſe: where a very ſlight
low diſpatches them. Seals are ſeen in the great-
plenty on the ſhores of Cornwall in May,
ne, and July. Their heads in ſwimming are
ways above water. They ſleep on rocks ſur-
unded by the ſea, or on the leſs acceſſible parts
ir cliffs left dry by the ebb of the tide; and
diſturbed by any thing, take care to tumble o-
the rocks into the ſea. They are extremely
tchful, and never ſleep long without moving;
raiſe their heads, and lie down again, and
n, raiſing their heads and reclining them alter-
ely in about a minute. They uſe this precau-
, as being unprovided with external ears; and
equently not hearing very quick, nor from
great diſtance. Theſe animals are ſo very
ful to the inhabitants of Greenland and other
ic people, that they may be called their flocks.
als (ſays Mr Crantz, who long reſided in theſe
ons,) are more needful to them than ſheep are
s, though they furniſh us with food and rai-
nt; or than the cocoa-tree is to the Indians.
ſeals fleſh, with that of the rein-deer, ſupplies
natives with their moſt ſubſtantial food. Their
niſhes them with oil for lamp-light, cham-
and kitchen fire. They alſo mollify their dry
, moſtly fiſh, in the train; and they barter
l kinds of neceſſaries with the factor. They
better with the fibres of the ſeals ſinews
with thread or ſilk. Of the ſkins of the en-
they make their windows, curtains for their
ſhirts, and part of the bladders they uſe at
harpoons; and they make train bottles of
rw. Formerly, for want of iron, they made
anner of inſtruments and working tools of
bones. Neither is the blood waſted, but
with other ingredients, and eaten as ſoup.
ſkin of the ſeal they ſtand in the greateſt
as they cover over with it their boats in
they ſeek their proviſions. They alſo cut
raps out of them, make the bladders for
harpoons, and cover their tents with them;
t which they could not ſubſiſt in ſummer.
is their chief buſineſs and labour from their
hood. The Greenlanders have 4 ways of
ing ſeals: either ſingly, with the bladder;
company, by the clapper-hunt; or in winter
e ice; or by ſhooting them with a gun. The
cipal and moſt common way is the taking
with the bladder. When the Greenlander
t equipped, and ſpies a ſeal, he tries to ſur-
and ſtrike it with his harpoon. The mo-
the ſeal is pierced, the Greenlander muſt
the bladder, tied to the end of the ſtring,
the water, on the ſame ſide as the ſeal runs
ives; for that he does inſtantly like a dart.
ſeal often drags the bladder under water, but
aries itſelf with it, that it muſt come up a-
in 15 minutes to breathe. The Greenlander
s to the ſpot, ſmites the ſeal with a long
, and kills it, but ſtops the wound directly
reſerve the blood; and laſtly, he blows it up,
a bladder, to make it ſwim after him, faſten-
to the left ſide of his boat. In this exerciſe the
Greenlander is expoſed to the moſt imminent dan-
ger of his life; which is probably the reaſon that
that they call this hunt or fiſhery *kamavock*, i. e.
the extinction, viz. of life. For if the line ſhould
entangle itſelf, or catch hold of the kajak, or boat,
or twine round the oar, hand, or neck, or if the
ſeal ſhould turn ſuddenly to the other ſide of the
boat, the kajak muſt be overturned by the ſtring,
and drawn down under water. Nay ſometimes
the ſeal will bite him in the face or hand, or bite
a hole in his kajak, ſo that he muſt ſink. Several
in company muſt purſue the cautious *kaſſigiak* by
the clapper-hunt. In the ſame manner they alſo
ſurround and kill the attarſoak in great numbers
at certain ſeaſons of the year, for in autumn they
retire into the creeks or inlets in ſtormy weather,
as in the Nepiſet ſound in Ball's river, between the
main land and the iſland Kangek, which is full 2
leagues long, but very narrow. There the Green-
landers cut off their retreat, and frighten them
under water by ſhouting, clapping, and throwing
ſtones; but as they muſt come up again to draw
breath, they kill them with darts. This is a very
profitable diverſion for the Greenlanders, for of-
ten one man will have 8 or 10 ſeals for his ſhare.
The 3d method of killing ſeals upon the ice is
moſtly practiſed in Diſko, where the bays are fro-
zen over in the winter. The ſeals make ſome-
times holes in the ice, where they breathe; near
ſuch a hole a Greenlander places himſelf, and
when the ſeal puts its noſe to the hole, he pierces
it inſtantly with his harpoon; then breaks the
hole larger, draws it out, and kills it. When the
current wears a great hole in the ice in ſpring, the
Greenlanders plant themſelves all round it, till the
ſeals come in droves to the brim to breathe, when
they kill them with their harpoons. Many alſo
are killed on the ice while ſleeping. Mr Pennant
in his *Arctic Zoology*, vol. 1. after deſcribing the
manner in which the Kamtſchatkans prepare their
ſeals fleſh and fat for winter proviſions, adds,
"Beſides the uſes which are made of the fleſh and
fat of ſeals, the ſkins of the largeſt are cut into
ſoles for ſhoes. The women make their ſummer
boots of the undreſſed ſkins, and wear them with
the hair outmoſt. In a country which abounds
ſo greatly in furs, very little more uſe is made of
the ſkins of ſeals in the article of dreſs than what
has been mentioned. But the Koriaks, the O-
loutores, and Tchutſchi, form with the ſkins ca-
noes and veſſels of different ſizes, ſome large e-
nough to carry 30 people. Seals ſwarm on all the
coaſts of Kamtſchatka, and will go up the rivers
80 verſts in purſuit of fiſh. The Tunguſi give the
milk of theſe animals to their children inſtead of
phyſic. The navigators obſerved abundance of
ſeals about Bering's Iſland, but that they decreaſed
in numbers as they advanced towards the ſtraits;
for where the walruſes abounded, the ſeals grew
ſcarce. Seals are now become a great article of
commerce. The oil from the vaſt whales is no
longer equal to the demand for ſupplying the
magnificent profuſion of lamps in and round the
capital. The chaſe of theſe animals is redoubled
for that purpoſe; and the ſkins, properly tanned,
are in conſiderable uſe in the manufactory of
boots and ſhoes."

ii. PHOCA VITULINA BOTNICA is a variety
differing

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differing in having a broader nose, longer nails, and a darker colour. They inhabit the Gulf of Bothnia.

iii. PHOCA VIT. CASPICA, the Caspian Seal, is of a mixed colour, and inhabits the Caspian Sea.

iv. PHOCA VIT. SIBIRICA, the Siberian Seal, is of a silver white colour, and inhabits the lakes Baikal and Oron in Siberia.

19. PHOCA URSINA, the *sea bear*, or *ursine seal*, has external ears. The male is greatly superior in size to the female. The bodies of each are of a conic form, very thick before, and taper to the tail. The length of a large one is eight feet; the greatest circumference, five feet; near the tail, 20 inches; and the weight is about 800 lb. The nose projects like that of a pug-dog, but the head rises suddenly; the teeth lock into one another when the mouth is shut: the tongue is large; the eyes are large and prominent, and may be covered at pleasure by a fleshy membrane. The length of the fore legs is 24 inches; they are like those of other quadrupeds, not immersed in the body like those of seals; the feet are formed with toes like those of other animals, but are covered with a naked skin, so that externally they seem to be a shapeless mass; the hind legs are fixed to the body quite behind, like those of common seals; but are capable of being brought forward, so that the animal makes use of them to scratch its head. These animals are found in the northern seas. They are found in amazing quantities between Kamtschatka and America; but are scarcely known to land on the Asiatic shore: nor are they even taken except in the three Kurilian islands, and from thence in the Bobr swoie More, or Beaver Sea, as far as the Kronski headland, off the river Kamtschatka, which comprehends only from 50° to 56° Lat. N. It is observable that they never double the southern cape of the peninsula, or are found on the western side in the Penschinska sea: but their great resort has been observed to be to Bering's islands. They are regularly migratory. They first appear off the three Kurile islands and Kamtschatka in the earliest spring. There is not one female which does not come pregnant. Such as are then taken are opened, the young taken out and skinned. They are found in Bering's island only on the western shore, being the part opposite to Asia, where they first appear on their migration from the south. Ursine seals are also found in the S. hemisphere, from under the line, in the isle of Gallipagos, to New Georgia, in Lat. 54° 15′ S. and Lon. 37° 15′ W. In the intermediate parts, they are met with in New Zealand, in the isle of Juan Fernandez, and Masla Fuera, and along the coasts of Chili to Terra del Fuego and Staten Land. In Juan Fernandez, Staten Land, and New Georgia, they swarm, as they do at the N. extremity of this vast ocean. Those of the S. hemisphere also migrate.—Alexander Selkirk, who passed 4 lonely years on the isle of Juan Fernandez, remarked that they come ashore in June, and stay till September. Captain Cook found them again in their place of remigration in equal abundance, on Staten Land and New Georgia in Dec. and Jan.; and Don Pernetty found them on the Falkland islands in Febr. According to the Greenlanders, this species inhabits the S. parts of their country. They call it *Auvekajuk*, and say it is very fierce, and tears to pieces whatsoever it meets; that it lives on land as well as in water, and is greatly dreaded by the hunters. During the three months of summer they lead a most indolent life: they arrive at the islands vastly fat; but during that time they are scarce ever in motion, confine themselves for whole weeks to one spot, sleep a great part of the time, eat nothing, and, except the employment the females have in suckling their young, are totally inactive. They live in *families*: each male has from 8 to 50 females, whom he guards with the jealousy of an eastern monarch; and they lie by thousands on the shores, each family keeps itself separate from the rest, and sometimes with the young and *unmarried* ones, amount to 120. The males are very irascible and often fight about the females. The battles are very violent, the wounds they receive are very deep, and resemble the cuts of a sabre. At the end of a fight they leap into the sea, to wash away the blood. The males are very fond of their young, but very tyrannical towards the females. They swim very swiftly, at the rate of seven miles an hour. If wounded, they will seize on the boat, and carry it along with vast impetuosity, and often sink it. They can continue a long time under water. When they want to climb the rocks they fasten with their fore paws, and draw themselves up. They are very tenacious of life, and will live for a fortnight after receiving such wounds as would immediately destroy any other animal. The Kamtschatkans take them by harpooning, but they never land on their shore. To the harpoon is fastened a long line, by which they draw the animal to the boat after it is spent with fatigue; but in the chase, the hunters are afraid of too near an approach, least the animal should fasten on, and sink their vessel. The flesh of the old males is rank and nauseous; that of the female is said to resemble lamb; that of the young roasted, a sucking pig. The skins of the young, cut out of the bellies of the dams, are effective for clothing, and are sold for about 3 s. 4 d. each; those of the old for only 4 s. Their remigration is in Sept. when they depart excessively lean, and take their young with them. On their return they again frequent the same places which they did in the spring. Their winter retreats are unknown; they are supposed to be the islands between Kurili and Japan, called *Compagni Land*, *Staten Land Jesso Gasima*, which were discovered by Martin Uriel in 1642; as by his account, the natives employed themselves in the capture of seals. They arrive along the shores of the Kurile islands, and part of those of Kamtschatka, from the S. They inhabit only the W. side of Bering's isle which faces Kamtschatka; and when they return in September, their route is due S. pointing towards the discoveries of Uriel.

PHOCÆA the last town of Ionia, and of Asia, is, because situated on the right or N. side of the Hermus, which he makes the boundary of Asia to the S. *(Mela, Plin. Ptol.)* It stood far in the land, on a bay or arm of the sea; had two very safe harbours, the one called *Lampter*, the other *Naustathmos*. *(Livy.)* It was a colony of Ionia and

ns, situated in the territory of Æolis. *(Herod.)* Massilia in Gaul was a colony from it. It was one of the 11 cities which assembled in the Panionium, or general council of Ionia. Some writers tell us, that while the foundations of this city were laying, there appeared near the shore a great shoal of rocks; whence it was called *Phocæa*, from φωκη *a seal*. Ptolemy, who makes the Hermus the boundary between Æolis and Ionia, places Phocæa in Æolis; but all other geographers reckon it among the cities of Ionia. It stood on the sea-coast between Cuma on the N. and Smyrna on the S. the Hermus; and was anciently one of the most wealthy and powerful cities of all Asia; but is now a poor village, though the see of a bishop. The Phocæans were expert mariners, and the first among the Greeks that undertook long voyages; which they performed in galleys of 50 oars. As they applied themselves to trade and navigation, they became acquainted pretty early with the coasts and islands of Europe, where they are said to have founded several cities, viz. VELIA in Italy, ALALIA, or ALERIA, in Corsica; and *Massilia* MARSEILLES) in Gaul. Neither were they unacquainted with Spain; for Herodotus tells us, that, in the time of Cyrus the Great, the Phocæans arriving at Sartessus, a city in the gulf of Cadiz, were treated with extraordinary kindness by Argathonius king of that country; and hearing that they were under apprehension of the growing power of Cyrus, invited them to settle in his kingdom. The Phocæans could not be prevailed upon to forsake their country; but having received a large sum of money, which that prince generously gave them, to defray the expence of building a strong wall round their city. This wall was built on their return; but it was unable to withstand the power of Cyrus, whose general Harpagus besieging the city with a numerous army, reduced it to the utmost extremities. The Phocæans offered to capitulate, but the conditions offered by Harpagus seeming severe, they desired that he would allow them three days to deliberate; and, in the mean time, withdraw his troops. Harpagus complied with their request, and the Phocæans put their wives, children, and most valuable effects on board several vessels, and sent them to the island of Chios. Their design was to purchase the Œnessian islands, which belonged to the Chians, and settle there. But the Chians, jealous of losing their trade, refused to sell them. They put to sea again, and having taken Phocæa by surprise, put all the Persians in it to the sword. They next went to Corsica; but great part of them returned very soon. They then submitted to subjection either to the Persians, or tyrants of their own. Among the latter we find Dionysius made of Laodamus, who attended Dinocrates in his expedition against the Scythians; and of Dionysius, who, joining Aristagoras the tyrant of Miletus, and chief author of the Ionian revolution, retired, after the defeat of his countrymen, to Phœnicia, where he made an immense booty, seizing on all the ships he met with trading in that country. From Phœnicia he sailed to Sardinia, where he committed great depredations on the Carthaginians and Tuscans; but is said never to have molested the Grecks. In the Roman times the city of Phocæa was with Antiochus the Great; whereupon it was besieged, taken, and plundered, by the Roman general; but allowed to be governed by its own laws. In the war which Aristonicus brother to Attalus, king of Pergamus, raised against the Romans, they assisted the former to the utmost of their power; which so highly displeased the senate, that they commanded the town to be demolished, and the whole race of the Phocæans to be exterminated. But the Massilienses interposed, and, with difficulty, assuaged the anger of the senate. Pompey declared Phocæa a free city, and restored the inhabitants to all their privileges; whence, under the first emperors, it was reckoned one of the most flourishing cities of all Asia Minor. It is now called FOCHIA.

PHOCÆANS, } PHOCÆENSES, the people of
PHOCÆI, or } PHOCÆA.

PHOCAICUS, a name given to MARSEILLES. *Lucan.*

PHOCAS, a Roman centurion, who was made emperor by the army, and was crowned at Constantinople about A. D. 603. The emperor MAURITIUS, thus deserted, fled to Chalcedon with his five children, whom Phocas caused to be inhumanly murdered before his eyes, and then he murdered Mauritius himself, his brother, and several others who were attached to him. Phocas then sent his own image and that of his wife Leontia to Rome. Gregory the Great, then bishop of Rome, caused the images to be lodged in the oratory of the martyr Cæsarius, and wrote congratulatory letters to the usurper. As soon as the murder of Mauritius was known, Narses, who commanded the troops on the frontiers of Persia, revolted. Phocas, however, managed matters so as to gain him over to his interest, and then treacherously burnt him alive. Phocas, by his cruelty, soon became generally hated, for he spared neither sex nor age, and amongst others he murdered Constantina the widow of Mauritius, and her daughters. In 609 a conspiracy was formed against him, but was discovered, and the persons concerned in it put to death. In 610, however, he was overtaken by the fate he had so long deserved. Heraclius, the son of Heraclius governor of Africa, being acknowledged as emperor by the people of Africa, sailed thence with a formidable fleet, and a powerful army for Constantinople, where he defeated the tyrant's fleet. Phocas took refuge in the palace; but one Photinus, whose wife he had debauched, pursuing him, forced the gates, dragged the cowardly emperor from the throne, and having stripped him of the imperial robes, and clothed him with a black vest, carried him in chains to Heraclius, who commanded his hands and feet, then his arms, and at last his head, to be cut off: and his body was delivered to the soldiers, who burnt it in the forum. Such was the end of this cruel tyrant, after he had reigned 7 years and some months. He was greatly addicted to wine and women, inexorable, a stranger to compassion, and in his principles a heretic.

PHOCENSES, } or PHOCENSIANS, the inhabi-
PHOCIANS, } tants of PHOCIS.
PHOCICI, }

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PHOCICUM BELLUM, the *Phocian* or *Sacred War*, carried on by the Thebans and Philip II. againſt the Phocians, for plundering the temple of Apollo at Delphi. See MACEDON, § 8, and PHOCIS.

PHOCILIDES, a Greek poet and philoſopher of Miletus, who flouriſhed about A. A. C. 540. The poetical piece now extant, attributed to him, is not of his compoſition, but of another poet who lived in the reign of Adrian.

PHOCION, a diſtinguiſhed Athenian general and orator in the time of Philip II. of Macedon. He was too modeſt to ſolicit command, though, either as a ſoldier, orator, ſtateſman, or general, he was by far the moſt eminent Athenian of his time. As he was a moſt diſintereſted patriot, he could entertain no affection for Philip: but as he knew the diſpoſition of his countrymen, and how unlikely they were to ſupport meaſures neceſſary to humble the Macedonian power, he choſe rather to cultivate the eſteem which Philip ſhowed for the ſtate of Athens, as a mean of preſerving her, when ſhe ſhould be reduced to that ſituation which he conceived they wanted virtue to prevent. (See MACEDON, § 8.) He was, however, appointed to command the army which was ſent to aſſiſt the Byzantines againſt Philip, whom he obliged to return to his own dominions. This truly great man, whom (though extremely poor) no ſum offered by Philip or Alexander could bribe to betray his country, and who on all occaſions gave them ſound advice, was at length accuſed by his ungrateful countrymen. This happened A. A. C. 318. He was ſent to Athens by Polyperchon, head of a faction in Macedonia, with his friends, chained in carts, with this meſſage, "That though he was convinced they were traitors, yet he left them to be judged by the Athenians, as a free people." They were all in a ſummary manner condemned to death, viz. Phocion, Nicocles, Aheudippus, Agamon, and Pythocles; theſe were preſent: Demetrius Phalereus, Callimedon, Charicles, and others, were condemned in their abſence. The ſpleen of his enemies was not extinguiſhed with his life; they decreed that his corpſe ſhould be baniſhed the Athenian territories. When the Athenians began to cool, and remember the many ſervices they had received from Phocion, they decreed him a ſtatue of braſs; ordered his bones to be brought back at the public expence; and decreed that his accuſers ſhould be put to death.

PHOCIS, a country of Greece, between Bœotia on the E. and Locris on the W. extending from the Sinus Corinthiacus on the S. to the ſea of Eubœa on the N. and, according to Dionyſius, as far as Thermopylæ; but reduced afterwards to narrower bounds. (*Demoſt. Strab. Pauſ.*) Its greateſt length was from N. to S. between 38° 45′ and 39° 20′, about 35 miles; but not extending 30 miles, from E. to W. *i. e.* from 23° 10′ to 23° 40′ at the wideſt, but about 23 miles towards the Corinthian bay, and much narrower ſtill towards the N. It was named from PHOCUS the ſon of Ornytion, a native of Corinth; but was ſoon after invaded by the Æginetæ, under PHOCUS, the ſon of Æacus king of Ægina. In Phocis there were many celebrated mountains, particularly Cytheron, Helicon, and PARNASSUS. (See theſe two last.) Cytheron was conſecrated to the Muſes as well as theſe, and was equally celebrated by the poets. The chief river, was the CEPHISUS, running from the foot of Parnaſſus northward, and falling into the Pindus, near the boundary of that kingdom. It had ſeveral conſiderable cities; ſuch as Cirrha, Criſſa, and ANTECYRA, which, according to Ptolemy, were on the ſea coaſts; and PYTHIA, DELPHIA, Daulis, Elatia, Ergoſthenia, and Panopeus, which were inland towns. *Elatia* was the largeſt and richeſt after Delphi. *Daulis* was remarkable for the ſtature and proweſs of its inhabitants, and for the tragical events ſaid to have happened in it. (See PHILOMELA, N° II.) DEUCALION king of that part of Phocis which lies about Parnaſſus, at the time that Cecrops I. built Attica; but the Phocians afterwards formed themſelves into a commonwealth, governed by aſſemblies, choſen from among themſelves, changed frequently. Of the hiſtory of the Phocians little is known till the time of the holy war, of which the following was the origin. The Phocians having preſumed to plough the territories of the city of Cyrra, conſecrated to the Delphic god, were ſummoned by the other ſtates before the court of the Amphictyons, a conſiderable fine was impoſed upon them for their ſacrilege. They refuſed to pay it, and at the next aſſembly their dominions were declared confiſcated to the uſe of the temple. This exaſperated the Phocians ſtill more; who, by the inſtigation of one PHILOMELUS, ſeized upon the temple, plundered it of its treaſure, and applied the ſacred depoſitum for a conſiderable time. This gave riſe to the *Phocian* or *Holy war*, in which the Athenians, Sparta, and ſome others of the Peloponneſian ſtates declared for the Phocians; the Thebans, Theſſalians, Locrians, and others for them. The various particulars of this war, which laſted 10 years; and wherein Philip II. of Macedon took an active part; with the defeat and death of PHAYLLUS and *Onomarchus*, the Phocian generals, are related under MACEDON, § 8. The war being ended, the grand council aſſembled, and impoſed an annual fine of 60 talents upon the Phocians, to be paid to the temple, and continued till they had fully repaired the damage it had ſuſtained, and, till this reparation ſhould be made, they were excluded from dwelling in their towns, and from having any vote in the general aſſembly. They did not, however, continue long under this heavy ſentence: their known valour made their aſſiſtance ſo neceſſary to the Amphictyons, that they were glad to remit it; after which the Phocians continued to behave with their wonted courage and reſolution, and ſoon obliterated the remembrance of former guilt.

PHOCUS, the name of three ancient heroes: 1. the founder, and, 2. the firſt invader of PHOCIS; which laſt was the ſon of Æacus by Pſamathe, one of the Nereids, and brother of Peleus and Telamon; who killed him: 3. The ſon of Ornytion, celebrated PHOCION, who avenged his father's death, but never did any other memorable.

PHOCYLIDES. See PHOCILIDES.

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PHOEBE, in the mythology, 1. a name of ana: (See DIANA.) 2. A daughter of Leucippus, other of Tyndarus, K. of Sparta, by Philodice, e daughter of Inachus. She and her ſiſter Hi-a were betrothed to their couſins Lynceus and as, but were carried off and married by their her couſins, CASTOR and POLLUX.

PHOEBEUM, a town of Laconia, near Sparta.

PHŒBIDAS, a Spartan general. ſent to aſſiſt the edonians againſt the Thracians. He ſeized itadel of Thebes, for which act of perfidy, parrans, inſtead of rewarding, diſgraced and ed him, though they ſtill retained the ci-. *(C. Nepos.)* He died A. A. C. 377.

PHŒBUS, one of the names given by ancient thologiſts to the Sun, Son, or Apollo. See A-o.

PHOEMOS, a lake of Arcadia. *Lempr.*

(1.) PHOENICE, an ancient town of Epirus. . XXII. c. 12.

(2.) PHOENICE, or } the ancient name of a PHŒNICIA, } country lying between 34th and 36th degrees of Lat. N.; bounded ria on the N. and E.; by Judæa on the S.; y the Mediterranean on the W. Some de-e name from one PHOENIX; others from a *palm* or *date*, as theſe trees abounded in ountry. Some ſuppoſe that *Phœnice* is ori-y a tranſlation of the Hebrew word *Edom*, the Edomites who fled thither in the days nd. By the contraction of Canaan it was ed *Chna*, and anciently RHABBOTHIN and The Jews commonly named it CANAAN; ſome part of it they knew by the name of PHOENICE. Bochart tells us, that the moſt ble etymology is *Phene Anak*, i. e. "the de-nts of Anak." Such were the names pe-to this ſmall country; though Phœnice was times extended to all the maritime countries ria, Judæa, and Canaan to the Philiſtines, even to the Amalekites. But theſe two , and the reſt, were moſt generally ſwal-up by thoſe of PALESTINE and SYRIA. is ſome diſagreement among authors with to the northern limits of this country. makes the river *Eleutherus* the boundary nice on the N. but Pliny, Mela, and Ste-place it in the iſland of Aradus, N. of ver. Strabo obſerves, that ſome will have ver Eleutherus to be the boundary of Se-, on the ſide of Phœnice and Cœloſyria. On aſt of Phœnice, and S. of the Eleutherus, the following cities: SIMYRA, Orthoſia, OLIS, Botrys, Byblus, Paræbyblus, Berytus, , SAREPTA, TYRUS, PALÆTYRUS. Phœ-tended, according to Ptolemy, even be-mount Carmel; for that geographer places nice not only Ecdippa and Ptolemais, but nanum and Dæra, which ſtand S. of that ain. Theſe, however, properly ſpeaking, ged to Paleſtine. We will not attempt to out the bounds of the midland Phœnice, ny reckons in it the following towns: Ar-Paræbyblus, (Old Byblus,) Gabala, and Cæ-Panæ. This province was conſiderably ex-d in the times of Chriſtianity; when, being idered as a province of Syria, it included both maſcus and Palmyra. The ſoil is good, and productive of many neceſſaries for food and clothing. The air is wholeſome, and the climate agreeable. It is plentifully watered by ſmall rivers; which, running down from mount Libanus, ſometimes ſwell to an immoderate degree, either increaſed by the melting of the ſnows on that mountain, or by heavy rains. Upon theſe occaſions they overflow, to the great danger and hinderance of the traveller and damage of the country. Among theſe rivers is that of ADONIS.

(1.) PHOENICIAN, *adj.* Of or belonging to Phœnicia.

(2.) PHOENICIAN LANGUAGE. See PHILOLOGY, *Sect.* IV.

PHOENICIANS, the inhabitants of PHOENICIA. It is univerſally allowed that the Phœnicians were Canaanites by deſcent. Their blood muſt have been mixed, however, with that of foreigners in proceſs of time, as happens in all trading places. The Phœnicians were governed by kings; and their territory, ſmall as it was, included ſeveral kingdoms; namely, thoſe of Sidon, Tyre, Aradus, Berytus, and Byblus. In this particular they adhered to the primitive government of their forefathers; who, like the other Canaanites, were under many petty princes, to whom they allowed the ſovereign dignity, reſerving to themſelves their natural rights and liberties. Of their civil laws we have no ſyſtem. With regard to religion, the Phœnicians were the moſt groſs and abominable idolaters. Baal-berith, Baalzebub, Baaliſamen, &c. mentioned in ſcripture, were ſome of the Phœnician gods; as were alſo Moloch, Aſhtaroth, and Thammuz. Among the Phœnicians, the chief deity was named *Baal*, or *Baal-ſamen*; whom the Hebrews called *Baal-ſhemim*, or the God of heaven. (See BAAL.) Diodorus Siculus ſays their chief deity was that of Carthage, *Chronus*, or SATURN. The ſacrifices offered up to him were children of the beſt families. Our author alſo tells us, that the Carthaginians had a brazen ſtatue or coloſſus of this god, the hands of which were extended in act to receive, and bent downwards in ſuch a manner, that the child laid thereon immediately fell down into a hollow where there was a fiery furnace. He adds alſo, that this inhuman practice ſeemed to confirm a tradition, handed down to the Greeks from very early antiquity, viz. that Saturn devoured his own children. The goddeſs Cœleſtis, or URANIA, was held in the higheſt veneration by the Carthaginians. She is thought to have been the ſame with the queen of heaven mentioned in Jeremiah, the Juno Olympia of the Greeks. Beſides theſe there were ſeveral other deities of later date, who were worſhipped among the Phœnicians, particularly thoſe of Tyre, and conſequently among the Carthaginians alſo. Theſe were Jupiter, Apollo, Mars, and Bacchus. Jupiter was worſhipped under the name of *Belus* or *Baal*. To him they addreſſed their oaths. The ſame name was alſo given to the other two, whence they were frequently miſtaken for one another. Apollo or the ſun went either by this name ſimply, or by others of which *Baal* made a part. ASTARTE, or ASHTAROTH, was alſo a chief goddeſs of the Phœnicians. See ASHTAROTH, and POLYTHEISM. Herodotus ſuppoſes the Phœnicians to

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have been circumcised; but Josephus asserts, that none of the nations included under the vague name of Palestine and Syria used that rite, the Jews excepted. They abstained, however, from the flesh of swine. Much is said of their arts, sciences, and manufactures; but in general terms only. The SIDONIANS, who were a branch of the Phœnicians, were of a most happy genius. They were early addicted to philosophical exercises; insomuch that Moschus, a Sidonian, taught the doctrine of atoms before the Trojan war: and Abomenus of Tyre puzzled Solomon by his questions. Phœnice continued to be one of the seats of learning, and both Tyre and Sidon produced their philosophers of later ages; namely, Boethus and Diodatus of Sidon, Antipater and Apollonius of Tyre, who gave an account of the writings and disciples of Zeno. As to their manufactures, the glass of Sidon, the purple of Tyre, and the exceeding fine linen they wove, were the product of their own country, and their own invention; and for their extraordinary skill in working metals, in hewing timber and stone; in a word, for their perfect knowledge of what was solid, great, and ornamental in architecture—we need only mention the large share they had in erecting and decorating the temple at Jerusalem under their king Hiram. Their fame for taste, design, and ingenious invention, was such, that whatever was elegant, great, or pleasing, in apparel, vessels, or toys, was distinguished by the epithet of Sidonian. The Phœnicians were likewise celebrated as merchants, navigators, and planters of colonies in foreign parts. As merchants, they may be said to have engrossed all the commerce of the western world: as navigators, they were the boldest, the most experienced, and greatest discoverers, of the ancient times: they had for many ages no rivals. In planting colonies they exerted themselves so much, that, considering their habitation was little more than the slip of ground between mount Libanus and the sea, it is surprising how they could furnish such supplies of people, and not wholly depopulate their own country. It is generally supposed, that the Phœnicians were induced to deal in foreign commodities by their neighbourhood with the Syrians; and that, from their example, they turned their thoughts to trade and navigation, and by an uncommon application soon eclipsed their masters in that art. That some of the Edomites fled into this country in the days of David, and that they were a trading people, is evident. The whole thoughts of the Phœnicians were employed on schemes to advance their commerce. They affected no empire but that of the sea; and seemed to aim at nothing but the peaceable enjoyment of their trade. This they extended to all the known parts they could reach; to the British isles, commonly understood by the Cassiterides; to Spain, and other places in the ocean, both within and without the Straits of Gibraltar; and, in general, to all the ports of the Mediterranean, the Black Sea, and the Lake Mæotis. In all these parts they had settlements and correspondents, from which they drew what was useful to themselves, or might be so to others; and thus they exercised the three great branches of trade, importation, exportation, and transportation. Such was their trade by sea; and for that which they carried on by land in Syria, Mesopotamia, Assyria, Babylonia, Persia, Arabia, and India, it was of no less extent, and may give us an idea of what that people once was, how rich and how deservedly their merchants are mentioned in Scripture as equal to princes. Their country was, at that time, the great warehouse, where every thing that might either administer to the necessities or luxury of mankind was to be found; which they distributed as they judged would be best for their own interest. As to their navigation, their large embarkations were of two sorts; they divided them into round ships or *gauli*; and long ships, galleys or *triremes*. When they drew up in line of battle, the gauli were disposed at a small distance from each other in the wings, or in the rear: the triremes were contracted together in the centre. To discourage other nations from engaging in commerce, they practised piracy, and thus grasped at the whole commerce of the then known world. They very early applied astronomy to navigation. See ASTRONOMY, *Index*.

PHOENICOPTERUS, the FLAMINGO, in ornithology, a genus of birds belonging to the order of grallæ. The beak is naked, tectated, bent as if it were broken; the nostrils are linear; the feet are palmated, and four-toed. There is but one species; viz.

PHOENICOPTERUS BAHAMENSIS of Catesby, a native of Africa and America. This species resembles the heron in shape, excepting the bill, which is of a very singular form. It is two years old before it arrives at its perfect colour; and then it is entirely red, excepting the quill feathers which are black. A full grown one is equal weight with a wild duck; and when it stands erect, it is five feet high. The feet are webbed. The flesh is delicate; and mostly resembles that of a partridge in taste. The tongue, above all other part, was in the highest esteem with the luxurious Romans. These birds make their nests on hillocks in shallow water; on which they sit with their legs extended down, like a man sitting on a stool. They breed on the coasts of Africa and the Bahama islands in the West Indies, but frequent salt water only. By the particular form of its bill, this bird, in eating, twists its neck from side to side, and makes the upper mandible touch the ground. They are very stupid, and will not arise at the report of a gun; nor is it any warning to those who survive, that they see others killed by their side; so that, by keeping himself out of sight, a fowler may kill as many as he pleases. See *Plate* CCLXXIII. These birds prefer a warm climate. In the old continent they are not often met with beyond Lat. 40° N. or S. They are found with everywhere on the African coast and adjacent isles, to the Cape of Good Hope; and sometimes on the coasts of Spain, Italy, and the south of France lying on the Mediterranean; being sometimes found at Marseilles, and for some way up the Rhone. In some seasons they frequent Aleppo and the parts adjacent. They are found also on the Persian side of the Caspian Sea, and thence along the W. coast as far as the W[illegible] though this is at uncertain times, and chiefly

confined

anſiderable flocks coming from the NE. moſtly Oct. and Nov.: but ſo ſoon as the wind chan-s, they totally diſappear. They breed in the ape Verd iſles, particularly in that of Sal. They for the moſt part in flocks, except in breeding ne. Dampier ſays, that, with two in company, killed 14 at once, which they effected by ſe-ting themſelves. Kolben tells us, that they e very numerous at the Cape; keeping in the y on the borders of the lakes and rivers, and ging at night in the long graſs on the hills. ey are alſo common in the warm parts of Ame-a, as Peru, Chili, Cayenne, Braſil, and the vari-s iſlands of the Weſt Indies. Sloane found them Jamaica, at the Bahama Iſlands and Cuba, but ey breed. Their food chiefly conſiſts of ſmall fiſh or their eggs; and of water inſects, ich they ſearch after by plunging in the bill d part of the head. Whilſt feeding, one of em is ſaid to ſtand centinel, and the moment he ſees the alarm, the whole flock takes wing. he bird, when at reſt, ſtands on one leg, the o-r being drawn up cloſe to the body, with the ad placed under the wing on that ſide of the dy it ſtands on. They are ſometimes caught ung, and are brought up tame; but are always patient of cold: and in this ſtate ſeldom live.

PHOENICURUS. See MOTACILLA, N° 10.

PHOENICUS, in ancient geography; 1. A untain of Boeotia: 2. and 3. A mountain and wn in Lycia: 4. A ſea port of Erythræ. *Livy*, 45.

PHOENICUSA, one of the Æolian Iſlands; called LIPARI. See that article.

PHOENISSA, a patronymic of Dido. *Virg.*

PHŒNIX, ſon of Amyntor king of Ar-by Cleobule or Hippodamia, was preceptor ung Achilles. His father having proved ſe to his wife, through fondneſs for a con-ne called *Clytia*, Cleobule perſuaded her ſon eak to ingratiate himſelf with his father's ſe. Phœnix eaſily ſucceeded; but Amyn-diſcovering his intrigues, pronounced a curſe him, and the ſon was ſoon after deprived of ht by divine vengeance. Some ſay that A-r himſelf put out his ſon's eyes, which ſo ked him, that he meditated the death of his r. Piety, however, prevailed over paſſion; that he might not become a parricide, Phœ-ſled from Argos to the court of Peleus king Phthia. Here he was treated with tenderneſs; was carried him to Chiron, who reſtored him his eye-ſight; ſoon after which; he was made ceptor to Achilles, his benefactor's ſon. He alſo preſented with the government of many ns, and made king of the Dolopes. He went h his pupil to the Trojan war. After the th of Achilles, Phœnix, with others, was com-ioned by the Greeks to return into Greece, ring to the war young Pyrrhus. This com-ion he ſucceſsfully performed; and after the l of Troy, he returned with Pyrrhus, and died Thrace. He was buried, according to Strabo, at Trachinia, where a ſmall river in the neigh-hood received the name of *Phœnix*.

(2.) PHOENIX, the ſon of Agenor, by a nymph who was called *Telephuſſa*, according to Apollo-rus and Moſchus, or, according to others, *Eu-pimeduſa*, *Periuneda* or *Agriope*. He was, like his brother Cadmus, and Cilix, ſent by his father in purſuit of his ſiſter Europa, whom Jupiter, under the form of a bull, had carried away; and when his inquiries proved unſucceſsful, he ſettled in a country, which was from him called PHOENICIA. From him alſo the Carthaginians were called POENI.

(3.) PHOENIX, in aſtronomy, one of the new Southern Conſtellations. See ASTRONOMY, § 549.

(4.) PHOENIX, in botany, the *Great Palm*, or *Date tree*; a genus of plants belonging to the order of palmæ. There is only one ſpecies, viz.

PHOENIX DACTYLIFERA, the common DATE TREE, a native of Africa and the eaſtern countries, where it grows to 50, 60, and 100 feet high. The trunk is round, upright, and ſtudded with protuberances, which are the veſtiges of the decayed leaves. From the top iſſues forth a cluſter of leaves or branches 8 or 9 feet long, extending all round like an umbrella, and bending a little towards the earth. The bottom part produces a number of ſtalks like thoſe of the middle, but ſeldom ſhooting ſo high as 4 or 5 feet. Theſe ſtalks, ſays Adanſon, diffuſe the tree very conſiderably; ſo that, wherever it naturally grows in foreſts, it is extremely difficult to open a paſſage through its prickly leaves. The date tree was introduced into Jamaica ſoon after the conqueſt of the iſland by the Spaniards. There are, however, but few of them in Jamaica at this time. The fruit is ſomewhat in the ſhape of an acorn. It is compoſed of a thin, light, and glofſy membrane, ſomewhat pellucid and yelloviſh; which contains a fine, ſoft, and pulpy fruit, which is firm, ſweet, and ſomewhat vinous to the taſte, eſculent, and wholeſome; within this is incloſed a ſolid, tough, and hard kernel, of a pale grey colour on the outſide, and finely marbled within like the nutmeg. For medicinal uſe, dates are to be choſen large, full, freſh, yellow on the ſurface, ſoft and tender, not too much wrinkled; ſuch as have a vinous taſte, and do not rattle when ſhaken. They are produced in many parts of Europe, but never ripen perfectly there. The beſt are brought from Tunis; they are alſo very fine and good in Egypt and in many parts of the eaſt. Thoſe of Spain and France look well; but are never perfectly ripe, and very ſubject to decay. They are preſerved three different ways; ſome preſſed and dry; others preſſed more moderately, and again moiſtened with their own juice; and others not preſſed at all, but moiſtened with the juice of other dates, as they are packed up, which is done in baſkets or ſkins. Thoſe preſerved in this laſt way are much the beſt. Dates have always been eſteemed moderately ſtrengthening and aſtringent. Though the date tree grows everywhere indiſcriminately on the northern coaſts of Africa, it is not cultivated with care, except beyond Mount Atlas; becauſe the heat is not ſufficiently powerful along the coaſts to bring the fruits to maturity. M. Des Fontaines ſays, all that part of the Zaara which is near Mount Atlas, and the only part of this vaſt deſert which is inhabited, produces very little corn; the ſoil being ſandy, and burnt up by the

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the ſun, is almoſt entirely unfit for the cultivation of grain, its only productions of that kind being a little barley, maize, and ſorgo. The date tree, however, ſupplies the deficiency of corn to the inhabitants of theſe countries, and furniſhes them with almoſt the whole of their ſubſiſtence. They have flocks of ſheep; but as they are not numerous, they preſerve them for the ſake of their wool; beſides, the fleſh of theſe animals is very unwholeſome food in countries that are exceſſively warm. The date trees are planted without order, 12 feet diſtant from each other, near rivulets and ſtreams. Foreſts of them may be ſeen here and there, ſome of which are ſeveral leagues in circumference. The extent of theſe plantations depends upon the quantity of water which can be procured to water them. All theſe foreſts are intermixed with orange, almond, and pomegranate trees, and with vines which twiſt round the trunks of the date trees; and the heat is ſtrong enough to ripen the fruit, though they are never expoſed to the ſun. Along the rivulets and ſtreams, dykes are erected to ſtop the courſe of their waters, that they may be diſtributed amongſt the date trees by ſmall canals. The number of canals is fixed for each individual; and in ſeveral cantons, to have a right to them, the proprietors are obliged to pay an annual ſum proportionable to the number and extent of their plantations. Care is taken to till the earth well, and to raiſe a circular border around the root of each tree, that the water may remain longer and in larger quantity. The date trees are watered in every ſeaſon, but more particularly during the great heats of ſummer. In winter, new plantations of this tree are formed. For this purpoſe thoſe who cultivate them take ſhoots of thoſe which produce the beſt dates, and plant them at a ſmall diſtance one from the other. At the end of 3 or 4 years, theſe ſhoots begin to bear fruit; but this fruit is as yet dry, without ſweetneſs, and even without kernels; they never reach the higheſt degree of perfection of which they are ſuſceptible till they are about 15 or 20 years old. Theſe plants are, however, produced from the ſeeds taken out of the fruit, provided they are freſh. They ſhould be ſown in pots filled with light rich earth, and plunged into a moderate hot-bed of tanners bark, which ſhould be kept in a moderate temperature of heat, and frequently watered. When the plants are come up to a proper ſize, they ſhould be each planted in a ſeparate ſmall pot, filled with the ſame light earth, and plunged into a hot-bed again, obſerving to refreſh them with water, as alſo to let them have air in proportion to the warmth of the ſeaſon and the bed in which they are placed. During the ſummer, they ſhould remain in the ſame hot-bed; but in the beginning of Auguſt, they ſhould have a great ſhare of air to harden them againſt the approach of winter; for if they are too much forced, they will be ſo tender as not to be preſerved through the winter without much difficulty, eſpecially if there is not a bark ſtove to keep them in. The ſoil, in which theſe plants ſhould be placed, muſt be compoſed in the following manner, viz. half of light freſh earth taken from a paſture ground, the other half ſea ſand and rotten dung, or tanners bark in equal proportion; theſe ſhould be carefully mixed, and laid in a heap 3 or 4 months at leaſt before it is uſed, but ſhould be often turned over to prevent the growth of weeds, and to ſweeten the earth. The trees, however, which ſpring from ſeed, never produce ſo good dates as thoſe that are raiſed from ſhoots; they being always poor and ill taſted. It is undoubtedly by force of cultivation, and after ſeveral generations, that they acquire a good quality. The date trees which have been originally ſown, grow rapidly, and bear fruit in the 4th or 5th year. Care is taken to cut the inferior branches of the date tree in proportion as they riſe; and a piece of the root is always left of ſome inches in length, which affords the eaſy means of climbing to the ſummit. The trees live a long time, according to the accounts of the Arabs; who ſay that, when they have attained to their full growth, no change is obſerved in them for the ſpace of three generations. The number of females which are cultivated is much ſuperior to that of the males, becauſe they are much more profitable. The ſexual organs of the date tree grow upon different ſtalks, and the trees flower in April and May, when the Arabs cut the male branches to impregnate the females. For this purpoſe, they make an inciſion in the trunk of each branch which they wiſh to introduce fruit, and place in it a ſtalk of male flowers; without this precaution the date tree would produce only abortive fruit. In ſome cantons the male branches are only ſhaken over the female. The practice of impregnating the date tree in this manner is very ancient. Pliny deſcribes it very accurately in that part of his work where he treats of the palm tree. There is ſcarcely any part of the date tree which is not uſeful. The wood, though of a ſpongy texture, laſts for a number of years, that the inhabitants of the country ſay it is incorruptible. They employ it for making beams and inſtruments of huſbandry; it burns ſlowly, but the coals which remain after its combuſtion are very ſtrong, and produce great heat. The Arabs ſtrip the bark and fibres from the young date trees, and eat the ſubſtance, which is in the centre; it is very nourishing, and has a ſweet taſte; it is known by the name of the marrow of the date tree. They alſo the leaves, when they are young and tender with lemon juice; the old ones are laid out to dry, and are employed for making mats and other works of the ſame kind, which are much uſed, and with which they carry on a conſiderable trade in the interior parts of the country. From the ſides of the ſtumps of the branches which have been left, ariſe a great number of downy filaments, of which they make ropes, and which might ſerve to fabricate cloth. Of the freſh juice and ſugar, ſays Haſſelquiſt, the Egyptians make a conſerve, which has a very pleaſant taſte. In Egypt they uſe the leaves as fly-flaps, for driving away the numerous inſects which prove ſo troubleſome in hot countries. The hard bough is uſed for fences and other purpoſes of huſbandry, the principal ſtem for building. The fruit, before it is ripe, is ſomewhat aſtringent; but when

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thoroughly mature, is of the nature of the fig. The Senegal dates are ſhorter than thoſe of Egypt, but much thicker in the pulp, which is ſaid to have a ſugary agreeable taſte, ſuperior to that of the beſt dates of the Levant. A white liquor, known by the name of *milk*, is drawn alſo from the date tree. To obtain it, all the branches are cut from the ſummit of one of theſe trees, and after ſeveral inciſions have been made in it, they are covered with leaves, in order that the heat of the ſun may not dry it. The ſap drops down into a veſſel placed to receive it, at the bottom of a circular groove, made below the inciſions. The ſap of the date tree has a ſweet and agreeable taſte when it is new; it is very refreſhing, and it is even given to ſick people to drink, but it generally turns ſour in 24 hours. Old trees are often loſt for this operation, becauſe the cutting of the branches, and the large quantity of ſap which flows from them, greatly exhauſt them, and often cauſe them to decay. The male flowers of the date tree are alſo uſeful. They are eaten when ſtill tender, mixed up with a little lemon juice. They are reckoned to be very provocative: the odour which they exhale is probably the cauſe of the property being aſcribed to them. Theſe date trees are very lucrative to the inhabitants of the deſert. Some of them produce 20 bunches of dates; but care is always taken to lop off a part of them, that thoſe which remain may become larger; 10 or 12 bunches only are left on the more vigorous trees. It is reckoned that a good tree produces, one year with another, about the value of 10 or 12 ſhillings to the proprietor. A very conſiderable trade is carried on with dates in the interior part of the country, and large quantities of them are exported to France and Italy. The crop is gathered towards the end of November. When the bunches are taken from the tree, they are hung up in ſome very dry place where they may be ſheltered and ſecure from inſects. Dates afford wholeſome nouriſhment, and are of a very agreeable taſte when they are freſh. The Arabs eat them without ſeaſoning. They dry and harden them in the ſun, to reduce them to a kind of meal, which they lay up in ſtore to ſupply themſelves with food during the long journies which they often undertake acroſs their deſerts. This ſimple food is ſufficient to nouriſh them for a long time.—The inhabitants of the Zaara procure alſo from their dates a kind of honey which is exceedingly ſweet. For this purpoſe they chooſe thoſe which have the ſofteſt pulp; after having put them into a large jar with a hole in the bottom, they ſqueeze them by placing over them a weight of eight or ten pounds.—The thick fluid part of the ſubſtance, which drops through the hole, is what they call the *honey* of the date. Even the ſtones, though very hard, are not thrown away.—They give them to their camels and ſheep as food, after they have bruiſed them, or laid them to ſoften in water. The date, as well as other trees which are cultivated, exhibits great variety in its fruit, with reſpect to ſize, ſize, quality, and even colour. There are reckoned to be at leaſt 20 different varieties. Dates are very liable to be pierced by worms, and they are eaſily corrupt in moiſt or rainy weather.

(5.) PHOENIX, in ornithology, a fabulous bird of antiquity. The ancients ſpeak of this bird as ſingle, or the only one of its kind; they deſcribe it as of the ſize of an eagle; its head finely creſted with a beautiful plumage, its neck covered with feathers of a gold colour, and the reſt of its body purple, only the tail white, and the eyes ſparkling like ſtars: they ſay, that it lives above 500 years in the wilderneſs; that when thus advanced in age, it builds itſelf a pile of ſweet wood and aromatic gums, and fires it with the waſting of its wings, and thus burns itſelf; and that from its aſhes ariſes a worm, which in time grows up to be a phœnix. Hence the Phœnicians gave the name of *phœnix* to the palm-tree; becauſe when burnt down to the root it riſes again fairer than ever. In the ſixth book of the Annals of Tacitus, ſect. 28, it is obſerved that, in the year of Rome, 787, the phœnix reviſited Egypt; which occaſioned among the learned much ſpeculation. This being is ſacred to the ſun. Of its longevity the accounts are various. The common perſuaſion is, that it lives 500 years; though by ſome the period is extended to 1461. But Auſonius makes it no leſs than 69,984 years! *Eidyl.* 18. The ſeveral eras when the phœnix has been ſeen are fixed by tradition. The firſt was in the reign of Seſoſtris; the 2d in that of Amaſis; and, in the period when Ptolemy III. was on the throne of Egypt, another phœnix directed its flight towards Heliopolis. When to theſe circumſtances are added the brilliant appearance of the phœnix, and the tale that it makes frequent excurſions with a load on its back, and that when, by having made the experiment through a long tract of air, it gains ſufficient confidence in its own vigour, it takes up the body of its father and flies with it to the altar of the ſun to be there conſumed; it cannot but appear probable, that the learned of Egypt had enveloped under this allegory the philoſophy of COMETS.

(6.) PHOENIX, a river in Trachinia.

PHŒNOMENOLOGY, *n. ſ.* a ſyſtem of, or treatiſe on phænomena. See PHILOSOPHY, *Sect.* III.

PHŒNOMENON. See PHÆNOMENON.

PHOLAS, a genus of inſects, belonging to the order of vermes teſtacea. The ſhell is double-valved and divaricated; the cardo is turned backwards, and connected by a cartilage. There are ſix ſpecies, diſtinguiſhed by the figures of their ſhells. The name *pholas* is derived from the Greek, and ſignifies ſomething which lies hid. This name they derive from their property of making themſelves holes in the earth, ſand, wood, or ſtone, and living in them. The means of their getting there, however, are as yet entirely unknown. All that we can know with certainty is, that they muſt have penetrated theſe ſubſtances when very ſmall; becauſe the entrance of the hole in which the pholas lodges is always much leſs than the inner part of it, and indeed than the ſhell of the pholas itſelf. Hence ſome have ſuppoſed that they were hatched in holes accidentally formed in ſtones, and that they naturally grew of ſuch a ſhape as was neceſſary to fill the cavity. The holes in which the pholades lodge are uſually twice as deep, at leaſt, as the ſhells themſelves are long; the figures of the holes is that of a truncated cone, excepting that they are terminated at the bottom

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bottom by a rounded cavity, and their position is usually somewhat oblique to the horizon. The openings of these holes are what betray the pholas being in the stone; but they are always very small in proportion to the size of the fish. There seems to be no progressive motion of any animal in nature so slow as that of the pholas; it is immersed in the hole, and has no movement except a small one towards the centre of the earth; and this is only proportioned to the growth of the animal. Its work is very difficult in its motion; but it has great time to perform it in, as it only moves downward, sinking itself deeper in the stone as it increases in bulk. That part by means of which it performs this, is a fleshy substance placed near the lower extremity of the shell; it is of the shape of a lozenge, and is considerably large in proportion to the size of the animal; and though it be of a soft substance, it is not to be wondered at that in so long a time it is able, by constant work, to burrow into a hard stone. How they perform this may be seen by taking one of them out of the stone, and placing it upon some soft clay; for they will immediately get to work in bending and extending that part allotted to dig for them, and in a few hours they will bury themselves in the mud in as large a hole as they had taken many years to make in the stone. They find little resistance in so soft a substance; and the necessity of their hiding themselves evidently makes them hasten their work. The animal is lodged in the lower half of the hole in the stone, and the upper half is filled up by a pipe of a fleshy substance and conic figure, truncated at the end: this they usually extend to the orifice of the hole, and place on a level with the surface of the stone; but they seldom extend it any farther than this. The pipe, though it appears simple, is in reality composed of two pipes, or at least it is composed of two parts separated by a membrane. The use of this pipe or proboscis is the same with that of the proboscis of other shell-fish, to take in sea-water into their bodies, and afterwards to throw it out again. In the middle of their bodies they have a small green vessel, the use of which has not yet been discovered. This, when plunged in spirit of wine, becomes of a purple colour: but its colour on linen will not become purple in the sun like that of the murex; and even if it would, its quantity is too small to make it worth preserving. The pholas is remarkable for its luminous quality, which was noticed by Pliny, who observes that it shines in the mouth of the person who eats it; if it touch his hands or clothes, it makes them luminous; and that its light depends upon its moisture. M. Reaumur observes, that whereas other fishes give light when they tend to putrescence, this is more luminous in proportion to its being fresh; that when dried, its light will revive if they be moistened either with fresh or salt water, but that brandy immediately extinguishes it. He endeavoured to make this light permanent, but none of his schemes succeeded. The attention of the Bolognian academicians was engaged to this subject by M. F. Marsilius in 1724, who brought a number of these fishes, and the stones in which they were inclosed, to Bologna, on purpose for their examination. Beccarius observed, that tho' this fish ceased to shine when it became putrid, yet that in its most putrid state it would shine, and make the water in which it was immersed luminous when it was agitated. Galeatius and Marsilius found that wine or vinegar extinguished the light; that in common oil it continued some days, but in rectified spirit of wine or urine hardly a minute. To discover in what manner this light was affected by different degrees of heat, they made use of a Reaumur's thermometer, and found that water rendered luminous by these fishes increased in light till the heat arrived to 45°, but that it then became suddenly extinct, and could not be revived again. In the experiments of Beccarius, a solution of salt increased the light of the luminous water; a solution of nitre did not increase it quite so much. Sal ammoniac diminished it a little, oil of tartar *per deliquium* nearly extinguished it, and the acids entirely. This water poured upon fresh calcined gypsum, rock crystal, ceruse, or sugar, became more luminous. He also tried the effects of oil when poured upon various other substances, but there was nothing very remarkable in them. Afterwards, using luminous milk, he found that oil of vitriol extinguished the light, but that of tartar increased it. He had the curiosity to try how different coloured substances were affected by the kind of light; and having, for this purpose, stamped several ribbons in it, the white came out brightest, next to this was the yellow, and then the green; the other colours could hardly be perceived. It was not, however, any particular colour, but only light, that was perceived in this case. He then dipped boards painted with the different colours, and also glass tubes filled with substances of different colours, in water rendered luminous by the fishes. In both these cases, the white was hardly visible, the yellow was the brightest, and the violet the dullest. But on the boards the blue was nearly equal to the yellow, and the green more languid; whereas in the glasses, the blue was inferior to the green. Of all the liquors in which he put the pholades, milk was rendered the most luminous. A single pholas made a quart of milk so luminous, that the faces of persons might be distinguished by it, and it looked as transparent. Air appeared to be necessary to the light; for when Beccarius put the luminous milk into glass tubes, no agitation would make it shine unless bubbles of air were mixed with it. Marsilius and Galeatius found, that, in an exhausted receiver, the pholas lost its light, but the water was sometimes made more luminous; which they ascribed to the rising of bubbles of air through it. Beccarius, as well as Reaumur, tried many schemes to render the light of these pholades permanent. For this purpose he kneaded the juice into a mass of paste with flour, and found that it would give light when it was immersed in warm water; but it answered best to preserve the fish in honey. By any other method of preservation, the property of becoming luminous would not continue longer than six months, but in honey it had lasted above a year; and then it would, when plunged in warm water, give as much light as ever. See Bartholin, *Centura Verminum*, p. 14, &c. Also *Phil. Trans.* 269.

PHOLEY, FOULI, or FULY, a country in the kingdom of Africa, in Guinea, on the banks of the

the Senegal, divided from that of the MANDINGOES by lake Cayor; extending 160 leagues, or 480 miles from E. to W. Its breadth from N. to S. is not aſcertained. The country is populous and the ſoil very fertile; producing rich crops of corn, rice, millet, peaſe, cotton, tobacco, and great variety of fruits and roots. It feeds great numbers of ſheep, goats, horſes and black cattle; and abounds with lions, tigers, elephants, crocodiles, and other wild beaſts. The king is called *Siratick*, and is ſaid to have great authority over his ſubjects.

PHOLEYS, or FOULIES, the inhabitants of the above kingdom, are a people of very peculiar manners. Mr Moore however ſays, that the Pholeys are in clans, build towns, and are in every kingdom and country on each ſide the river; yet are ſubject to any of the kings of the country, though they live in their territories; for if they are uſed by one nation, they break up their towns, and remove to another. He gives a beautiful account of their character, diſpoſitions and morals, which are partly quoted under the article GUINEA, § 4. They are rather of a low ſtature, but have a genteel and eaſy ſhape, with an air peculiarly delicate and agreeable. Though they are ſtrangers in the country, they are the greateſt planters in it. They are extremely induſtrious and frugal, and raiſe much more corn and cotton than they conſume, which they ſell at reaſonable rates; and are ſo remarkable for their hoſpitality, that the natives eſteem it a bleſſing to have a Pholey town in their neighbourhood; and their behaviour has gained ſuch reputation, that it is eſteemed infamous to any one to treat them in an unhoſpitable manner. Their humanity extends to all, but they are only kind to people of their own race. They however as brave as any people of Africa, and expert in the uſe of their arms, which are jaſſes, cutlaſſes, bows and arrows, and upon occaſion guns. They uſually ſettle near ſome Mundingo town, there being ſcarce any of note up the river that has not a Pholey town near it. Moſt of them ſpeak Arabic, which is taught in their ſchools; and they are able to read the Koran in that language, though they have a vulgar tongue of their *Pholey*. Their houſes are built in a very regular manner, they being round ſtructures, placed ſome at a diſtance from each other to avoid fire, and each of them has a thatched roof ſomewhat reſembling a high-crowned hat. They are alſo great huntſmen, and not only kill lions, tygers, and other wild beaſts, but frequently go 20 or 30 in company to hunt elephants; whoſe teeth they ſell, and whoſe fleſh they ſmoke, dry and eat, keeping for ſeveral months together. They are alſo the only people who make butter, and ſell it at ſome diſtance up the river. They are very particular in their dreſs, and never wear any other clothes but long robes of white cotton, which they make themſelves. They are always very clean, eſpecially the women, who keep their houſes exceedingly neat.

PHOLIDOTUS. See PANGOLIN.

(1.) PHOLIS, in ichthyology, the name of a genus of anguilliform fiſh. The back is brown, the belly is white, the whole back and ſides are ſpotted, and the ſkin is ſoft, free of ſcales, but with a tough mucilaginous matter like the eel. This ſpecies moſt of all approaches to the *alanda*; and though uſually larger, yet Mr Ray doubts whether it really differs from it in any thing eſſential; the diſtinction is its colour, which though a very obvious is certainly a very precarious one.

(2.) PHOLIS, in the old ſyſtem of mineralogy, the name of a genus of foſſils of the claſs of gypſums or plaſter-ſtones. Its diſtinguiſhing characters are, that the bodies of it are tolerably hard, compoſed of particles ſomewhat broad, and of a bright cryſtalline luſtre. The name is derived from φολις, *a ſcale* or *ſmall flake*, becauſe they are compoſed of particles of that form. The ſpecies are very valuable, and perhaps the moſt ſo of all the gypſums, becauſe they burn to the beſt and fineſt plaſter, but ſo far as is yet known, there are but 2 of them: viz. the fine plaſter-ſtone of Montmartre in France, called by us *plaſter of Paris ſtone* and *parget*; and the other, the coarſer and ſomewhat reddiſh kind, common in many parts of England, and called *hall plaſter*. See PLASTER OF PARIS.

PHOLOE, 1. a mountain of Arcadia, near Piſa ſo named from PHOLUS, who was buried in it: 2. another in Theſſaly, near mount Othrys. *Plin.* iv. 6. *Lucan.* 3.

PHOLUS, in fabulous hiſtory, one of the Centaurs, who entertained Hercules, when going againſt the Erymanthian boar. *Paſſ.* 3. *Virg. Æn.* 8. 294.

PHONASCUS. See MUSIC, § 42.

PHONIA, a town of European Turkey, in the Morea, 32 miles WSW. of Corinth.

(1.) * PHONICKS. *n. ſ.* [from φωνη.] The doctrine of ſounds.

(2.) PHONICS is otherwiſe called ACOUSTICS. See that article.

* PHONOCAMPTICK. *adj.* [φωνη and καμπτω.] Having the power to inflect or turn the ſound, and by that to alter it.—The magnifying the ſound, by the polyphoniſms or repercuſſions of the rocks, and other *phonocamptick* objects. *Derham.*

PHORCUS, or } in the mythology, the ſon of
PHORCYS, } Neptune by Thooſa, who married his ſiſter Ceto, by whom he had the GORGONS, the dragon, that kept the gardens of the Heſperides, and other monſters. *Heſiod.*

PHORMIO, an Athenian general, who reduced himſelf to poverty to maintain the dignity of his army. The Atheniens paid his debts, and offered to make him head general, which he declined.

PHORMIUM, in botany, a genus of the monogynia order, belonging the hexandria claſs of plants. The moſt remarkable ſpecies is,

PHORMIUM TENAX, (or Forſter,) the FLAX PLANT, a plant that ſerves the inhabitants of New Zealand inſtead of hemp and flax. Of this plant there are two ſorts; the leaves of both reſemble thoſe of flags, but the flowers are ſmaller, and their cluſters more numerous; in one kind they are yellow, and in the other a deep red. Of the leaves, with very little preparation, they make all their common apparel, and alſo their ſtrings, lines, and cordage, for every purpoſe; which are much ſtronger than any thing we can make with hemp. From the ſame plant, by another preparation, they draw long,

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ſlender fibres, which ſhine like ſilk, and are as white as ſnow: of theſe, which are very ſtrong, they make their fineſt cloths; and of the leaves, without any other preparation than ſplitting them into proper breadths, and tying the ſtrips together, they make their fiſhing nets, ſome of which are of an enormous ſize. The ſeeds of this valuable plant have been brought over into England; but, upon trial, appeared to have loſt their vegetating power.

(1.) PHORONEUS, in fabulous hiſtory, the ſon of Inachus by Meliſſa, brother of Io, and the 2d king of Argos. He married the nymph Laodice, by whom he had Apis and Niobe; civilized his ſubjects; built a temple to Juno, &c. and after death was worſhipped as the god of the river, N° 2. *Pauſan.*

(2.) PHORONEUS, a river of Peloponneſus.

PHORONIS, a pantronymic of Io, or Iſis.

PHORONIUM, a town of Argolis.

I. PHOSPHAS, } *n.ſ.* (from *phoſphorus.*) in che-
I. PHOSPHAT, } miſtry, a ſalt formed by the union of the phoſphoric acid, with different baſes. (See CHEMISTRY, *Index*, and *Vocab.* I. and II.) Phoſphats are ranked by the ingenious Dr Thomas Thomſon, in his *Syſt. of Chem.* vol. IId.) as the "7th genus of alkaline and earthy ſalts." "This claſs of ſalts, (ſays the Dr) was firſt diſtinguiſhed by Pott and Margraff. Several of the Phoſphats were afterwards examined by Haupt, Schloſſer, Rouelle, Prouſt, Weſtrum, and Scheele; but for the moſt complete account of them we are indebted to Fourcroy and Vauquelin. They may be diſtinguiſhed by the following properties: 1. When heated along with combuſtibles, they are not decompoſed, nor is phoſphorus obtained. 2. Before the blow-pipe they are converted into a globule of glaſs, which in ſome caſes is tranſparent, in others opaque. 3. Soluble in nitric acid without effervеſcence, and precipitated from that ſolution by lime-water. 4. Decompoſed, at leaſt partially, by ſulphuric acid; and their acid, which is ſeparated when mixed with charcoal and heated to redneſs, yields phoſphorus. 5. After being ſtrongly heated, they often phoſphoreſce. The earthy phoſphats at preſent known amount to 13; ſome of which are found native in great abundance."

1. "PHOSPHAT OF ALUMINA. This ſalt has only been examined by Fourcroy. It may be formed by ſaturating phoſphoric acid with alumina. It is a taſteleſs powder, inſoluble in water. Diſſolved in phoſphoric acid, it yields a gritty powder, and a gummy ſolution, which by heat is converted into a tranſparent glaſs.

2. "PHOSPHAT OF AMMONIA exiſts in urine, and was firſt accurately diſtinguiſhed by Rouelle. It was afterwards examined by LAVOISIER in 1774, and ſtill more lately by Vauquelin. It is uſually prepared by ſaturating with ammonia the ſuperphoſphat of lime obtained from bones, and evaporating the ſolution to ſuch a conſiſtency, that, when allowed to cool, the phoſphat of ammonia is obtained in cryſtals. It cryſtallizes in four-ſided priſms, terminated by equal-ſided pyramids. Its taſte is cooling, ſalt, and ammoniacal. Its ſpecific gravity is 1·8061. It is ſoluble in 4 parts of water at the temperature of 60°, and in rather a ſmaller proportion of boiling water. By ſpontaneous evaporation it is obtained in the ſtate of regular cryſtals. It is not altered by expoſure to the air. When heated it undergoes the watery fuſion: it then dries; but if the heat be continued, it ſwells up, loſes its alkaline baſe, and the acid melts into a tranſparent glaſs. It is the only one of the earthy and alkaline phoſphats which can be decompoſed by heat: hence the reaſon, that it yields phoſphorus when diſtilled along with charcoal. It is decompoſed by the ſulphuric, nitric and muriatic acids, and by the fixed alkalies and alkaline earths. It is capable of combining with an additional doſe of acid, and of aſſuming the ſtate of a *ſuper-phoſphat*. According to Fourcroy, it is decompoſed by the following ſalts: 1. Sulphats of ſtrontian, lime, magneſia, glucina, alumina, zirconia. 2. Sulphites of barytes, lime, potaſs, ſoda, ſtrontian, magneſia, glucina. 3. Nitrats of barytes, ſtrontian, lime, magneſia, glucina, alumina, zirconia. 4. Muriats of barytes, ſtrontian, lime, magneſia, glucina, alumina, zirconia. 5. Phoſphats of lime, barytes, ſtrontian, magneſia, potaſs, ſoda. 6. Fluats and borats of lime, barytes, ſtrontian, magneſia, potaſs, ſoda. 7. Carbonats of barytes, ſtrontian, lime, potaſs, ſoda. The ſalt is much employed as a flux, in experiments with the blow-pipe. It enters alſo as an ingredient in thoſe coloured glaſſes called *paſtes*, which are made in imitation of precious ſtones." See PASTES.

3. "PHOSPHAT OF AMMONIA AND MAGNESIA was firſt diſcovered by Fourcroy, in a calcareous concretion formed in the colon of a horſe. Since this diſcovery, Fourcroy and Vauquelin obſerved it alſo in human urine. It may be prepared by mixing ſolutions of the phoſphats of ammonia and magneſia in water: the triple ſalt immediately precipitates in the ſtate of a white powder. When urine is allowed to remain a conſiderable time in cloſe veſſels, it often depoſits this ſalt in regular cryſtals on the ſides and bottom of the veſſel. Theſe cryſtals are ſmall four-ſided priſms, terminated by irregular four-ſided pyramids. This ſalt is taſteleſs, ſcarcely ſoluble in water, and not liable to be altered by expoſure to the air. When heated, it falls to powder, gives out its ammonia, and in a high temperature melts into a tranſparent globule. When diſtilled along with charcoal, phoſphorus is obtained. Fourcroy has aſcertained, that the phoſphat of ammonia and magneſia, obtained from the calculous concretion of the horſe, is compoſed of 33 phoſphat of ammonia, 33 phoſphat of magneſia, and 33 water.

4. "PHOSPHAT OF BARYTES has hitherto been deſcribed only by M. Vauquelin. It may be prepared either by ſaturating phoſphoric acid with barytes, or carbonat of barytes, or by mixing an alkaline phoſphat and nitrat or muriat of barytes. In either caſe the phoſphat of barytes precipitates immediately in the form of a white powder. This ſalt is taſteleſs, incryſtallizable by art, inſoluble in water, and not altered by expoſure to the air. Its ſpecific gravity is 1·2867. When ſtrongly heated, it melts into a grey-coloured enamel. The proportion of its component parts is unknown. According to Fourcroy, it is decompoſed

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posed by the following salts: 1. All the earthy and alkaline sulphats. 2. Sulphite of lime. 3. Nitrats of strontian, lime, alumina. 4. Muriats of lime, glucina, zirconia. 5. Carbonats of potash, soda.

5. "PHOSPHAT OF GLUCINA has only been examined by Vauquelin. He obtained it by pouring phosphat of soda into the solution of glucina in sulphuric, nitric, or muriatic acids. The phosphat of glucina is precipitated in the state of a white powder. It does not crystallize. It is tasteless, insoluble in water, unless it contains an excess of acid, and not liable to be altered by exposure to the air. When heated strongly, it melts into a transparent glass. According to Fourcroy, it is decomposed by the following salts: 1. Sulphats of alumina, zirconia. 2. Sulphites of barytes, lime, potash, soda, strontian, ammonia, magnesia. 3. Nitrats of alumina, zirconia. 4. Muriats of alumina, zirconia. 5. Phosphites, hats, and borats, of lime, barytes, strontian, magnesia, potash, soda, ammonia. 6. Carbonats f barytes, strontian, lime, potash, soda, ammonia.

6. "PHOSPHAT OF LIME. This interesting t," (says our learned author,) "which constitutes the basis of BONES, was pointed out by Scele and Gahn in 1774: but for the first precise account of its properties we are indebted to Bergberg, Fourcroy, and Vauquelin. As this salt constitutes the basis of bones, it is not necessary to prepare it artificially. It may be obtained in a state of purity by the following process: Calcine the bones to whiteness, reduce them to powder and wash them repeatedly with water, to separate several soluble salts which are present. After the edulcoration, there remains only phosphat of lime, and a little carbonat of lime. This last salt may be dissolved by means of weak acetous acid; and the phosphat, after being well washed, remains in a state of purity. Phosphat of lime, thus procured, is always in the state of a white powder; but it is found native in regular crystals. In this state it is known by the name of *Apatite*. The primitive form of its crystals is, according to Haüy, the regular six-sided prism; and the primitive form of its integrant particles is a three-sided prism, whose bases are equilateral triangles: But they very often assumes other forms. It is destitute of taste, insoluble in water, and not liable to be altered by exposure to the air. It may be exposed to a strong heat without undergoing any change; but in a very violent heat it becomes soft, and is converted into a white semi-transparent enamel, or rather porcelain. According to the experiments of Saussure, a heat of 378° Wedgwood is necessary to produce this effect. Sulphuric, nitric, muriatic, fluoric, and several vegetable acids, are capable of decomposing phosphat of lime; but the decomposition is only partial. Fourcroy and Vauquelin have ascertained, that these acids are only capable of abstracting 0·40 parts of the lime, while the remainder continues combined with phosphoric acid, constituting a *Superphosphat of Lime*. Hence the reason that phosphoric acid is capable also of decomposing partially the combinations of these acids with lime: it abstracts as much of the lime as is sufficient to convert it into super-phosphat. Phosphat of lime, according to Fourcroy and Vauquelin, is composed of 41 acid, 59 lime. According to Fourcroy, it is decomposed by the following salts: 1. Fluats of barytes, potash, soda. 2. Borat of barytes. This salt is employed for making cupels: from also almost the whole of the PHOSPHORUS employed by chemists is extracted. It is employed likewise as a medicine in rickets.

7. "*Super*-PHOSPHAT OF LIME was discovered in 1795, by Fourcroy and Vauquelin. It had indeed been often formed before, but chemists had neglected to examine it. It is this salt, which always remains in the aqueous solution, when calcined bones are decomposed by sulphuric acid; and it may be formed artificially by dissolving phosphat of lime in phosphoric acid, till the acid refuses to take up any more, and afterwards evaporating the solution till the salt crystallizes. Its crystals are usually thin brilliant plates resembling mother-of-pearl, which easily adhere together, and acquire a kind of gluey consistency. Its taste is strongly acid. Water dissolves it; and in a greater proportion when boiling hot than when cold: hence a saturated solution of it in boiling water crystallizes on cooling. It attracts a little moisture when exposed to the air. When heated, it readily undergoes the watery fusion; then swells up and dries. In a high temperature, it melts into a semitransparent glass, which is tasteless and insoluble, and is not altered by exposure to the air. When this salt is heated to redness along charcoal, its excess of acid is decomposed, and converted into phosphorus, and phosphat of lime remains behind. It is from this salt that PHOSPHORUS is usually obtained: but the process of Fourcroy, which consists in decomposing the super-phosphat of lime by acetite of lead, and afterwards decomposing the phosphat of lead by means of charcoal, must yield a much greater proportion of phosphorus. No acid hitherto tried is capable of decomposing this salt except the oxalic, which abstracts its base completely, and precipitates with it in the form of oxalat of lime; but it is decomposed and reduced to the state of phosphat of lime by all the alkaline and earthy bases. It is composed, according to Fourcroy and Vauquelin, of 54 acid, 46 lime.

8. "PHOSPHAT OF MAGNESIA was first formed by BERGMAN in 1775. It has been lately examined with much precision by the celebrated and indefatigable Vauquelin. It is usually prepared by dissolving carbonat of magnesia in phosphoric acid, and evaporating the solution gradually till the salt crystallizes; but it may be obtained in large regular crystals by a much easier process first pointed out by Fourcroy. Mix together equal parts of the aqueous solutions of phosphat of soda and sulphat of magnesia. No apparent change takes place at first; but in a few hours large transparent crystals of phosphat of magnesia appear in the solution. Its crystals are six-sided prisms, the sides of which are unequal. It has very little taste; however, it leaves a cooling and sweetish impression upon the tongue. Its specific gravity is 1·5489. It requires about 15 parts of cold wa-

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ter to dissolve it. It is more soluble in boiling water, but it crystalizes in part as the solution cools. When exposed to the air, it loses its water of crystallization, and falls down in powder. When heated moderately, it is also reduced to a dry powder. In a high temperature, it melts into a transparent glass. According to Fourcroy, it is decomposed by the following salts: 1. Sulphats of glucina, zirconia. 2. Sulphites of barytes, lime, potass, soda, glucina. 3. Nitrats of barytes, strontian, lime. 4. Muriats of barytes, strontian, glucina, zirconia. 5. Phosphites of lime, barytes, strontian, potass, soda. 6. Fluats of lime, barytes, strontian, otass, soda, ammonia. 7. Borats of lime, barytes, strontian, potass, soda. 8. Carbonats of strontian, lime, potass, soda."

9. "PHOSPHAT OF POTASS was first formed by Lavoisier in 1774. It was afterwards examined by Vauquelin. It is prepared by saturating phosphoric acid with potass, and evaporating the solution to the required consistency. This salt does not crystallize when evaporated sufficiently: it assumes the form of a jelly; and if the evacuation be carried farther, it becomes dry altogether. Its specific gravity, when dry, is 2·8516. It is exceedingly soluble in water; and when dry readily attracts moisture from the atmosphere, and is converted into a viscid liquid. When heated, it first undergoes the watery fusion; then allows its water of crystallization to evaporate, and is reduced to dryness. In a high temperature it melts into a transparent glass, which deliquesces again when exposed to the air. It is completely decomposed by the sulphuric, nitric, and muriatic acids; and by barytes, strontian, and lime. The following salts, according to Fourcroy, have the property of decomposing it: 1. Sulphats of soda, strontian, lime, ammonia, magnesia, glucina, alumina, zirconia. 2. Sulphites of barytes, lime, strontian, glucina. 3. Nitrats of barytes, soda, strontian, lime, ammonia, magnesia, glucina, alumina, zirconia. 4. Muriats of barytes, soda, strontian, lime, ammonia, magnesia, glucina, alumina, zirconia. 5. Phosphites of lime, barytes. 6. Fluats barytes, and carbonats of barytes, lime.

10. "PHOSPHAT OF SODA. This salt exists ready formed in urine, and was the first known of all the phosphats. It occupied a good deal of the attention of chemists; and the difficulty of analyzing it gave occasion to various hypotheses concerning its nature. Heliot remarked it in urine; and described it, in 1737, as a salt different from those that had been usually observed. Haupt described it in 1740, under the name of *Sal mirabile perlatum*, or 'wonderful perlated salt.' It was called *perlated* from the grey opaque *pearl-like* colour, which it assumed when melted by the blowpipe. Margraff described it in 1745, and found it would not yield phosphorus when treated with charcoal, as the other salts of urine did. Rouelle jun. analyzed it in 1776, and concluded that it was a compound of phosphoric acid and soda; but Mr Proust, being unable to obtain phosphorus from it, concluded that it did not contain phosphoric acid, but another acid analogous to the boracic acid. To this substance, which Mr Proust actually obtained, Bergman gave the name of *perlated acid*, and Morveau afterwards called it *oxygenic acid*. But Mr Klaproth soon afterwards analyzed it, and proved that it consisted of [illegible] supersaturated with phosphoric acid. Scheele soon after made the same discovery. The acid of Mr Proust, then, is merely phosphat of soda, combined with phosphoric acid, or *super-phosphat of soda*. Dr Pearson afterwards introduced it with great advantage into medicine, as a purgative. He gives the following process for preparing it: Dissolve in a long-necked matrass 1400 grains of crystallized carbonat of soda in 2100 grains of water at the temperature of 150°. Add gradually [illegible] gr. of phosphoric acid of the specific gravity 1·[illegible]. Boil the liquor for some minutes; and while boiling hot, filtrate it, and pour it into a [illegible] vessel. Let it remain in a cool place, and crystals will continue to form for several days. From the above quantities of materials he has obtained 1450 to 1550 grains of crystals. Apothecaries usually prepare it from the super-phosphat of lime (N° 7.) obtained from bones by sulphuric acid. An excess of carbonat of soda is added to separate the lime. The liquid is then filtered and evaporated slowly till it crystalizes. Its crystals are rhomboidal prisms, of which the acute angles are 60°, and the obtuse angles 120°, terminated by a three-sided pyramid. Its specific gravity is 1·333. Its taste is almost the same with that of common salt. It is soluble at the temperature of 60°, in about 4 parts of water, and 2 of boiling water. This solution crystallizes on cooling. But to obtain the salt properly crystallized, the solution should contain a slight excess of alkali. When exposed to the air, this salt very soon effloresces on the surface. When heated it undergoes the watery fusion. At a red heat it melts into a white enamel. Before the blow-pipe it melts into a transparent globule, which becomes opaque on cooling, and its surface acquires a polyhedral figure. It is not altered by combustibles, metals. With metallic oxides it enters into fusion, and forms a coloured globule of glass. The sulphuric, nitric, and muriatic acids, decompose it partially, and convert it into *super-phosphat of soda*. In this state it is more soluble in water, and so easily crystallized; but may be obtained by proper evaporation in the state of thin scales, somewhat like boracic acid. It was this super-phosphat which Proust obtained, and which he considered as a peculiar acid. The greater number of glasses may be fused along with this salt, and converted into glass. It is decomposed, says Fourcroy, by the following salts: 1. Sulphats of lime, strontian, magnesia, alumina, glucina, zirconia. 2. Sulphites of barytes, lime, potass, strontian, glucina. 3. Nitrates of barytes, lime, ammonia, magnesia, glucina, alumina, zirconia. 4. Muriats of barytes, strontian, lime, ammonia, magnesia, glucina, alumina, zirconia. 5. Phosphites of lime, barytes, potass. 6. Fluats, borats, and carbonats of barytes, potass. This salt has been applied to various uses: It has been introduced into medicine as a purgative, and on account of its pleasant taste has of late been much used. It is usually given in broth, which it is employed to season instead of common salt. It may be substituted for borax to promote the soldering of metals. Many artists employ it very much as a flux; when

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mine the action of heat on minerals by means of the blow-pipe.

II. "PHOSPHAT OF SODA AND AMMONIA. Though this ſalt, known to chemiſts by the names of *ſecret ſalt*, and *ſalt of urine*, was extracted from urine, and examined much ſooner, than any of the other phoſphats, it was long before philoſophers were able to form preciſe notions concerning its nature, or even to obtain it in a ſtate of purity. This indeed could not be expected, till the phoſphats of ſoda and ammonia had been accurately examined, and their compoſition aſcertained. Fourcroy was the firſt, who gave a preciſe account of the proportion of its component parts, viz. 32 acid, 24 ſoda, 19 ammonia, 25 water. The properties of this ſalt are nearly thoſe of" the 2d and "laſt ſpecies mixed together. It anſwers better than the firſt of them" (N° 2.) "as a flux; becauſe the heat more eaſily drives off the ammonia, and leaves an exceſs of acid. Its ſpecific gravity is 1·509. When expoſed to the air, this ſalt effloreſces, and gradually loſes its ammonia; a fact firſt obſerved by the Duke de Chaulnes.

III. "PHOSPHAT OF STRONTIAN was firſt diſcovered by Dr HOPE; but it was more particularly deſcribed by Vauquelin in 1797. It may be formed by diſſolving carbonat of ſtrontian in phoſphoric acid, or by mixing together nitrat of ſtrontian and phoſphat of ſoda. A white precipitate immediately falls, which is the phoſphat of ſtrontian. This ſalt is taſteleſs, inſoluble in water, and unalterable by expoſure to the air. It is ſoluble in an exceſs of phoſphoric acid: a property which diſtinguiſhes it from phoſphat of barytes. Before the blow-pipe it fuſes into a white enamel, and at the ſame time emits a phoſphoric light. It is completely decompoſed by ſulphuric acid, but by no other. According to Vauquelin, it is compoſed of 41·24 acid, 58·76 ſtrontian. According to Fourcroy, the following ſalts decompoſe it: 1. Phoſphats of barytes, lime. 2. Nitrites of lime. 3. Muriats of lime, zirconia. 4. Phoſphites of barytes, potaſs. 5. Fluats of barytes, potaſs, ſoda. 6. Carbonats of barytes, lime, potaſs, ſoda.

IV. "PHOSPHAT OF YTTRIA. This ſalt has not been formed by Vauquelin. When the ſolution of phoſphat of ſoda is mixed with the ſulphat, nitrat or muriat of yttria, phoſphat of yttria precipitates in gelatinous flakes."

PHOSPHATS, METALLINE, ſalts formed by the union of the phoſphoric acid with different metallic baſes. Of theſe Dr Thomſon enumerates ſeveral ſpecies, under the different genera of their reſpective baſes, in his 2d ſection "*Of Metalline Salts*," Vol. II and III.

PHOSPHAT OF ANTIMONY is mentioned but not deſcribed by Dr Thomſon. "The action (he ſays) of phoſphoric acid on antimony has never been examined. Neither is the ſalt better known, which that acid may be capable of forming with the oxides of that metal."

PHOSPHAT OF COBALT. "Phoſphoric acid diſſolves cobalt, and forms a reddiſh coloured ſolution, which depoſites phoſphat of cobalt when evaporated."

PHOSPHAT OF COPPER. "Phoſphoric acid does not attack copper immediately; but when allowed to remain long upon it, oxidation takes place, and the phoſphat of copper is formed. This ſalt may be obtained with great facility, by pouring phoſphat of ſoda into a ſolution of nitrat of copper. A bluiſh-green powder immediately precipitates, which is *phoſphat of copper*. This ſalt is inſoluble in water. Its ſpecific gravity, according to Hiſſenfratz, is 1·4158. When expoſed to a red heat, it loſes its water, and acquires a brown colour. When violently heated, phoſphorated copper comes over. According to M. Chevenix, it is compoſed of brown oxide, 49·5, water 12, forming hydrat of copper 61·5; acid 35, and water 3·5.

iv. "PHOSPHAT OF IRON. When ſulphat of iron, diſſolved in water, is mixed with a ſolution of phoſphat of potaſs, a blue powder precipitates, which is phoſphat of iron. This powder is inſoluble in water, and does not loſe its colour when expoſed to the air. This ſalt is found *native*, and conſtitutes the colouring matter of a blue mineral, called *Native Pruſſian Blue*, found in bogs, and firſt analyſed by Klaproth. Native Pruſſian Blue, when dry out of the earth, is at firſt often colourleſs; but when expoſed to the air, it becomes blue.

v. "*Oxy*-PHOSPHAT OF IRON. This ſalt may be readily procured by mixing the ſolutions of oxy-muriat of iron and phoſphat of potaſs or ſoda. A white powder immediately falls which is oxy-phoſphat of iron. This ſalt, like almoſt all the *phoſphats*, is ſoluble in acids, but precipitated undecompoſed by ammonia. It is almoſt inſoluble in water, as it requires more than 1500 parts of that liquid to diſſolve one part of oxy-phoſphat. When heated violently, it melts into an aſh-coloured globule. When mixed with charcoal, and heated to redneſs, it is converted into phoſphuret of iron.

vi. "*Sub-oxy*-PHOSPHAT OF IRON. When the oxyphoſphat of iron" (N° v.) "is treated with the pure fixed alkalies, a red, or rather browniſh-red, powder is ſeparated, while the alkali combines with phoſphoric acid. This powder was examined by Fourcroy and Vauquelin, and found by them ſtill to contain a portion of acid. It is therefore merely oxy-phoſphat with exceſs of baſe. This ſalt is ſcarcely ſoluble in acids or in water; but it diſſolves readily in the white of an egg, or in the ſerum of blood, and communicates to theſe liquids a brown or red colour. Its ſolubility is increaſed, and its colour heightened, by the preſence of a portion of fixed alkali. This is the ſalt, which gives a *red colour* to the *blood*." See BLOOD, § 8.

vii. "PHOSPHAT OF LEAD. Phoſphoric acid has but little action on lead; however, when allowed to remain long in contact with it, the metal is partly oxidated, and converted into an inſoluble phoſphat. The phoſphat of lead may be eaſily formed by mixing the alkaline phoſphats with nitrat of lead. The ſalt immediately precipitates in the ſtate of inſoluble powder. This ſalt is found native in different parts of the world." (See MINERALOGY, *Part* II. *Chap.* VII. *Claſs* IV. *Order* VIII. *Gen.* III. *Sp.* 3.) "Its colour is then uſually green or yellow, and it is often cryſtallized in ſix-ſided priſms. It is inſoluble in water

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water, unleſs there be a conſiderable exceſs of acid; but it is ſoluble in pure ſoda, and probably forms with it a triple ſalt. When heated, it melts, and aſſumes on cooling a regular polyhedral form. In a red heat it is decompoſed by charcoal, which abſorbs the oxygen from both of its component parts. The ſulphuric, nitric, and muriatic acids, decompoſe it by abſtracting its baſe while cold; but theſe decompoſitions do not take place in a ſtrong heat. The *yellow phoſphat of lead*, from LEAD-HILLS in Scotland, is compoſed according to my analyſis," (ſays the Dr) "abſtracting the impurities with which it is uſually mixed, of 18 acid and 82 white oxide."

viii. "PHOSPHAT OF LIME AND ANTIMONY. The well known medicine, called JAMES's POWDER, has been ſhewn by the analyſis of Dr Pearſon, to be a compound of phoſphoric acid, lime and oxide of antimony; we may therefore conſider it as a triple ſalt." (See PHARMACY, *Index.*) "The energy with which it acts as an emetic is well known. From Dr Pearſon's analyſis, it appears to be compoſed of about 43 parts phoſphat of lime, 57 oxide of antimony. It may be compoſed by calcining into a white heat a mixture of equal parts of ſulphuret of antimony and the aſhes of bones."

ix. "PHOSPHAT OF MANGANESE. Phoſphoric acid has but little action on manganeſe or its oxides, becauſe it forms with them a ſalt difficultly ſoluble in water. But phoſphat of manganeſe may be obtained in the form of a precipitate, by mixing an alkaline phoſphat with the ſolution of manganeſe in any of the three mineral acids. This ſalt has not been examined."

x. "PHOSPHAT OF MERCURY. Phoſphoric acid does not act on mercury, but combines with its oxide, and forms phoſphat of mercury. This ſalt is formed moſt conveniently by mixing together the ſolutions of nitrat of mercury and phoſphat of ſoda. The ſalt immediately precipitates in the ſtate of a white powder. This ſalt has been lately introduced into medicine, and ſeems to anſwer equally well with the other mercurial preparations. It phoſphoreſces when rubbed in the dark; and when diſtilled it yields phoſphorus, like the other metallic phoſphats. Its ſpecific gravity is 4·9835.

xi. "PHOSPHAT OF NICKEL. Phoſphoric acid is capable of diſſolving only a very ſmall portion of the oxide of nickel. The ſolution does not yield cryſtals, and has ſcarcely even a green colour. Hence it would ſeem that the phoſphat of nickel is nearly inſoluble."

xii. "PHOSPHAT OF SILVER. Phoſphoric acid does not act upon ſilver, but it combines readily with its oxide. Phoſphat of ſilver is precipitated in the ſtate of a white powder, when phoſphoric acid is poured into liquid nitrat of ſilver. It is inſoluble in water, but ſoluble in an exceſs of phoſphoric acid; when heated ſtrongly in a crucible, a little phoſphorus comes over, and phoſphuret of ſilver remains in the retort."

xiii. "PHOSPHAT OF TIN. Phoſphoric acid (ſays our learned author) has ſcarcely any action on tin, unleſs when it is expoſed dry, and mixed with that metal, to the action of a ſtrong heat. In that caſe part of the acid is decompoſed, its phoſphorus combines with one portion of the tin, and forms a phoſphoret, while the oxide of tin unites with the undecompoſed acid, and forms a phoſphat. This ſalt precipitates all ſo when the alkaline phoſphats are mixed with a ſolution of muriat of tin; but its properties have never been examined."

xiv. "PHOSPHAT OF URANIUM. Phoſphoric acid forms with oxide of uranium yellowiſh white flakes, ſcarcely ſoluble in water. The ſalt may be precipitated by adding phoſphoric acid to the acetite of uranium.

xv. "PHOSPHAT OF ZINC. Phoſphoric acid attacks zinc with effervescence, and a white powder is gradually depoſited, which is the *phoſphat of zinc*. The ſalt may be formed alſo by pouring an alkaline phoſphat into the ſolutions of ſulphat, nitrat, or muriat of zinc. It is nearly inſoluble in water."

To PHOSPHATE. *v. a.* To combine any body with phoſphoric or phoſphorous acid.

(1.) PHOSPHATED, *part. adj.* Combined with phoſphoric or phoſphorous acid.

(2.) PHOSPHATED IRON, a ſpecies of ſalt of iron of which the ingenious Dr Thomſon gives the following account: "Phoſphoric acid has but little action upon iron. However, if that metal reduced, expoſed to the contact of phoſphoric acid, or even to the ſolutions of ſalts that contain that acid, it is gradually oxidated, and converted into phoſphate of iron. The properties of phoſphated iron have not been examined with attention. Scheele has ſhewn that the acid combines with both oxides, and forms both a *phoſphat* and *oxy-phoſphat of iron*. Fourcroy and Vauquelin have lately ascertained that there are two varieties of this ſalt; one of which had been deſcribed by Bergman, Meyer, Klaproth, and Scheele, and another with exceſs of baſe, and conſequently a *ſub-oxy-phoſphat*, which theſe philoſophers firſt obſerved." See PHOSPHAT, N° II, 4. 5, and 6.

PHOSPHIS, } a ſalt formed by the union
PHOSPHITE, } the phoſphorous acid, with different baſes. (See CHEMISTRY, *Index*; *Vocab.* II.) Phoſphites form the 8th genus of ſalts in Dr Thomſon's Syſtem of Chemiſtry. "These ſalts (ſays he) have been lately examined, for the firſt time, and their properties deſcribed, by Fourcroy and Vauquelin. They may be diſtinguiſhed by the following properties: 1. When heated, they emit a phoſphoreſcent flame. 2. When diſtilled with a ſtrong heat, they give out a little phoſphorus, and are converted into phoſphats. 3. Detonate when heated with nitrat or oxy-muriat of potaſh, and are converted into phoſphats. 4. Converted into phoſphats by nitric and oxy-muriatic acids. 5. Fuſible in a violent heat into glaſs. The phoſphites at preſent known amount to ſeven," or rather eight: viz.

1. "PHOSPHITE OF ALUMINA may be procured by ſaturating phoſphorous acid with alumina, and then evaporating the alumina to a proper conſiſtence. It does not cryſtallize, but forms a gummous maſs, which dries gradually, and does not afterwards attract moiſture from the air. Its taſte is aſtringent. It is very ſoluble in water. When heated it frothes, and gives out phoſphorus, but it does not readily melt into a globule of glaſs."

2. PHOS-

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4. "PHOSPHITE OF AMMONIA may be prepared by diſſolving carbonat of ammonia in phoſphorous acid, and evaporating the ſolution ſlowly till it depoſites cryſtals of phoſphite of ammonia. It cryſtallizes ſometimes in long tranſparent needles, and ſometimes in four-ſided priſms terminated by four-sided pyramids. It has a very ſharp ſaline taſte. It is ſoluble in two parts of water at the temperature of 60°, and ſtill more ſoluble in boiling water. When expoſed to the air it attracts moiſture, and becomes ſlightly deliqueſcent. When diſtilled in a retort, the ammonia is diſengaged, partly ſolid and partly in the ſtate of gas, holding phoſphorus in ſolution, which becomes luminous when mixed with oxygen gas. Before the blow-pipe on charcoal, it boils and loſes its water of cryſtallization: it becomes ſurrounded with a phoſphoreſcent light, and bubbles of phoſphorated hydrogen gas are emitted, which burn in the air with a livid flame, and form a fine coronet of phoſphoric acid vapour. This gas is emitted alſo, when the ſalt is heated in a ſmall glaſs bulb, the tube belonging to which is plunged under mercury. This ſalt is compoſed of 26 acid, 51 ammonia, and 23 water.

PHOSPHITE OF AMMONIA AND MAGNESIA. This ſalt may be formed by mixing together the ſeparate ſolutions of its two component parts. It is ſingly ſoluble in water, and may be obtained in cryſtals; but its properties have not been examined with preciſion."

PHOSPHITE OF BARYTES may be formed by mixing phoſphorous acid into barytic water. From this laſt water into a ſolution of phoſphite of ammonia. In either caſe phoſphite of barytes precipitates in the form of a white powder. It is inſipid, and but very ſparingly ſoluble in water, unleſs there be an exceſs of acid. It is not altered by expoſure to the air. Before the blow-pipe it melts and is ſurrounded with a light ſo brilliant that the eye can ſcarcely bear it. The globule which it forms becomes opaque as it cools. It is compoſed of 41·7 acid, 51·3 barytes, and 7 water.

PHOSPHITE OF LIME may be formed by diſſolving lime in phoſphorous acid; when the ſaturation is complete, the ſalt precipitates in the ſtate of a white powder. It is taſteleſs and inſoluble in water; but it diſſolves in an exceſs of acid, and forms the *ſuperphoſphite*. This laſt ſalt may be obtained in priſmatic cryſtals by evaporating the ſolution. This ſalt is not altered by expoſure to the air. When heated, it phoſphoreſces, and emits a ſmell of phoſphorus. In a violent heat, it melts into a tranſparent globule. It is compoſed of 34 acid, 51 lime, and 15 water."

PHOSPHITE OF MAGNESIA is beſt formed by mixing together aqueous ſolutions of phoſphite of ammonia or ſoda and ſulphat of magneſia; the phoſphite of magneſia gradually precipitates in form of ſmall white flakes. It has no ſenſible taſte. Requires to be in 400 parts of water, at the temperature of 60°, and ſcarcely more ſoluble in boiling water. When its ſolution is evaporated ſlowly, a tranſparent pellicle forms on its ſurface: flakes are depoſited, and towards the end of the proceſs tetrahedal cryſtals are precipitated. When expoſed to the air it effloreſces. When heated, it efloreſces and melts into a glaſs, which becomes opaque on cooling. It is compoſed of 44 acid, 20 magneſia, 36 water."

7. PHOSPHITE OF POTASS is formed by diſſolving carbonat of potaſs in phoſphorous acid, and evaporating the ſolution ſlowly, till it depoſites cryſtals of phoſphite of potaſs. It cryſtallizes in four-ſided octangular priſms, terminated by dihedral ſummits. Its taſte is ſharp and ſaline. It is ſoluble in 3 parts of cold water, and ſtill more ſoluble in boiling water. It is not altered by expoſure to the air. When heated, it decrepitates, and then melts into a tranſparent globule, which becomes opaque on cooling. It does not phoſphoreſce ſo evidently as the other phoſphites, perhaps becauſe it contains an exceſs of potaſs, which ſaturates the phoſphoric acid as it forms. It is compoſed of 39·5 acid, 49·5 potaſs, 11 water.

8. "PHOSPHITE OF SODA. This ſalt (ſays the Dr) may be prepared exactly in the ſame way as phoſphite of potaſs:" only ſubſtituting (we ſuppoſe) carbonat of ſoda for the carbonat of potaſs. —"Its cryſtals are irregular four-ſided priſms, or elongated rhomboids. Sometimes it aſſumes the form of ſquare plates, or of plumoſe cryſtals. Its taſte is cooling and agreeable. It is ſoluble in two parts of cold water, and ſcarcely more ſoluble in boiling water. When expoſed to the air, it efloreſces. Before the blow-pipe it emits a beautiful yellow flame, and melts into a globule, which becomes opaque on cooling. It is compoſed of 16·3 acid, 23·7 ſoda and 60 water. It is decompoſed by, 1. Sulphats of lime, barytes, ſtrontian, magneſia. 2. Nitrats and muriats of lime, barytes, ſtrontian, magneſia.

* PHOSPHOR. See PHOSPHORUS § 1.

PHOSPHORACEOUS, *adj.* [from *phoſphorus.*] Reſembling phoſphorus; partaking of the nature of phoſphorus.

To PHOSPHORATE. *v. a.* To combine the phoſphoric or phoſphorous acid with any baſe; to endure any ſubſtance with the properties of phoſphorus.

(1.) PHOSPHORATED, *part. adj.* combined with phoſphoric or phoſphorous acid: enduced with the properties of phoſphorus.

(2.) PHOSPHORATED AZOTIC GAS, an aerial fluid, thus deſcribed by the ingenious Dr Thomſon in his *Elem. of Chem.* vol. i. p. 67, 68. "Azotic gas very readily diſſolves phoſphorus plunged into it. Its bulk is increaſed about one 40th, and *Phoſphorated Azotic Gas* is the reſult. When this gas is mixed with oxygen gas it becomes luminous, in conſequence of the combuſtion of the diſſolved phoſphorus. The combuſtion is moſt rapid when bubbles of phoſphorated azotic gas are let up into a jar full of oxygen gas. When *phoſphorated oxygen gas*, and phoſphorated azotic gas, are mixed together, *no light* is produced, even at the temperature of 82°."

(3.) PHOSPHORATED HYDROGEN GAS, a very combuſtible aerial fluid, which, according to our learned author, is thus produced:—"When phoſphorus is introduced into a glaſs jar of hydrogen gas ſtanding over mercury, and then melted by means of a burning glaſs, the hydrogen gas diſſolves a very great proportion of it. The new compound, thus formed, has received the name of *phoſphorated hydrogen gas*. It was diſcovered in

1783

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1783 by Mr Gengembre, and in 1784 by Mr Kirwan, before he became acquainted with the experiments of Gengembre. But for the fullest investigation of its properties, we are indebted to Mr Raymond; who published dissertations on it in 1791 and 1800.—It has a very fetid odour, exactly similar to the smell of putrid fish. When it comes into contact with common air, it burns with great rapidity; and if mixed with it, detonates violently. Oxygen gas produces a still more rapid and brilliant combustion. When bubbles of it are made to pass up through water, they explode in succession, as they reach the surface of the liquid; a beautiful coronet of white smoke is formed, which rises slowly to the ceiling. This gas is the most combustible substance known. It is obvious that its combustion is merely the combination of its phosphorus and its hydrogen with the oxygen of the atmosphere; the products, of course, are phosphoric acid and water. These two substances mixed, or rather combined, constitute the coronet of white smoke. Pure water, agitated in contact with this gas, dissolves at the temperature of between 30° and 60° about the 4th part of its bulk of it. The solution is of a colour not unlike that of roll sulphur; it has a very bitter and disagreeable taste, and a strong unpleasant odour. When heated nearly to boiling, the whole of the phosphorated hydrogen gas is driven off unchanged, and the water remains behind in a state of purity. When exposed to the air, the phosphorus is gradually deposited in the state of red oxide; the hydrogen gas makes its escape, and at last nothing remains but pure water." *Syst. Chem.* Vol. 1. p. 58.

(4.) PHOSPHORATED OXIDE OF MERCURY, BLACK, an oxide thus described by Dr Thomson: "Mr Pelletier, after several unsuccessful attempts to combine phosphorus and mercury, at last succeeded by distilling a mixture of red oxide of mercury and phosphorus. Part of the phosphorus combined with the oxygen of the oxide, and was converted into an acid; the rest combined with the mercury. He observed that the mercury was converted into a black powder before it combined with the phosphorus. On making the experiment, I found that phosphorus combines very readily with the black oxide of mercury, when melted along with it in a retort filled with hydrogen gas, to prevent the combustion of the phosphorus. As Pelletier could not succeed in his attempts to combine phosphorus with mercury in its metallic state, we must conclude, that it is not with mercury, but with the black oxide of mercury, that the phosphorus combines. The compound, therefore, is not *phosphuret of mercury*, but *black phosphorated oxide of mercury*."

(5.) PHOSPHORATED OXIDE OF ZINC. "Phosphorus (says Dr Thomson) combines with oxide of zinc; a compound which Margraff had obtained during his experiments on phosphorus. When 12 parts of oxide of zinc, 12 parts of phosphoric glass, and 2 parts of charcoal powder, are distilled in an earthen ware retort, and a strong heat applied, a metallic substance sublimes of a silver white colour, which, when broken, has a nitreous appearance. This according to Pelletier is *Phosphorated oxide of zinc*. When heated by the blowpipe, the phosphorus burns, and leaves behind glass, transparent while in fusion, but opaque and cooling. Phosphorated oxide of zinc is obtained also when 2 parts of zinc and one of phosphorus are distilled in an earthen retort. The products are 1. zinc; 2. oxide of zinc; 3. a red sublimate which is phosphorated oxide of zinc; 4. Needle form crystals, of a metallic brilliancy, and a blue fish colour."

PHOSPHORFAL, *adj.* Of or belonging to phosphorus; resembling phosphorus: illuminated brilliantly like phosphorus.

To PHOSPHORESCE, *v. n.* To take fire and burn with a lively brilliant flame like phosphorus; to become phosphoric.

PHOSPHORESCENCE, *n. s.* The property or quality of burning like phosphorus.

PHOSPHORESCENT, *part. adj.* Flaming or burning like phosphorus: partaking of the nature or acid of phosphorus.

PHOSPHORET. See PHOSPHURET.

(1.) PHOSPHORIC, *adj.* Of or belonging to phosphorus: partaking of the nature of phosphorus.

(2.) PHOSPHORIC ACID, or the ACID OF PHOSPHORUS, formerly called the MICROCOSMIC. See CHEMISTRY, *Index*. "Phosphoric acid (says Dr Thomson, in his *Syst. of Chem.* Vol. 1. p. 27.) may be formed by setting fire to a quantity of phosphorus, contained in a vessel filled with oxygen gas. The phosphorus burns with great rapidity, and a great number of white flakes are deposited, which are *phosphoric acid* in a state of purity. It may be obtained too by heating phosphorus under water till it melt, and then passing a stream of oxygen gas to pass through it by means of a tube. In this case the acid as it is formed combines with the water; but the liquid may be evaporated off by the application of heat, and the acid remains behind in a state of purity. It may be procured also by distilling off the water from phosphorus; but the process is difficult, as the quantity of nitric acid required is considerable. Phosphoric acid remained unknown after the discovery of phosphorus. Boyle is perhaps the first chemist who mentions it; but Margraff first examined its properties, and determined it to be a peculiar acid. Its properties were afterwards more completely investigated by Lavoisier, Scheele, Lavoisier, Pearson, Fourcroy, Vauquelin, and several other distinguished chemists. Lavoisier first proved that it is composed of phosphorus and oxygen. From his experiments it follows, that it is composed of about phosphorus and 61 oxygen. Phosphoric acid, when pure, is solid, colourless, and transparent. It reddens vegetable blues; It has no smell, taste is very acid, but it does not destroy the texture of organic bodies. When exposed to the air it soon attracts moisture, and deliquesces into a thick oily-like liquid, in which state it is usually kept by Chemists. When exposed to fire in a platinum crucible, its water gradually evaporates, and leaves it in the state of a transparent jelly. If the heat be increased it boils and bubbles, owing to the separation of the remainder of the water, accompanied with a small portion of it. At a red heat it remains in the form of a tra-

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ent liquid, and when cooled assumes the form of e purest crystal. In this state it is known by e name of PHOSPHORIC GLASS. This glass is rely phosphoric acid totally deprived of water. as an acid taſt, is very soluble in water, and liquesces when exposed to the air. The specic gravity of this acid, in a state of dryness, is 87; in the state of glass, 2·8516; in the state of deliquescence 1·417.—When in the state of ue flakes, it dissolves in water with a hissing , similar to that made by red hot iron plung- into water. When in the state of glass it dis- s much more slowly. The heat evolved, the combination of this acid and water, is inferior to that evolved when sulphuric enters into a similar combination. Phospho- id obtained by deliquescence, when mixed an equal quantity of distilled water, acquir- little *heat* as to raise the thermometer only degree, as Mr Sage observed. M. Lavoisier ed the thermometer from 50° to 63° by mix- phosphoric acid boiled to the consistence of rup with an equal quantity of water; and 50° to 104° when the acid was as thick as utine. Oxygen gas has no action on phos- acid, whatever be the temperature. Nei- it decomposed or altered by any of the combustibles, except charcoal; which, tho' no action on it while cold, at a red heat de- es it completely: carbonic acid is formed, osphorus sublimed. This is the common for obtaining PHOSPHORUS. This acid able of combining with metals; but when ed state it is capable of oxidating some of especially when assisted by heat; at the me hydrogen gas is emitted. Hence the ion is owing to the decomposition of wa- Phosphoric acid is capable of oxidating iron, ad, zinc, antimony, bismuth, manganese. fused with several of these metals, as tin, d zinc, it is converted into phosphorus; a that they have a stronger affinity for oxygen. s not act upon gold, platinum, silver, cop- ercury, arsenic, cobalt, nickel. It appears r to have some action on gold in the *dry* it is called; for when fused with gold assumes a purple colour; a proof that the has been oxidated. Phosphoric acid com- with acids, earths, and metallic oxides, and with them salts, named *Phosphats*. (See PHATS, § I, II.) Its affinities are as follow: es, strontian, lime, potass, soda, ammonia, ina, glucina, alumina, zirconia, metallic ox- silica. This acid is too expensive to be into common use. If it could be procu- a cheap rate, it might be employed with age, not only in several important chemical actures, but also in medicine, and perhaps for the purposes of domestic economy." (*Syst.* em. vol. II, p. 27—30.) Our learned author in Vol. iv. p. 355, "The phosphoric acid is the most abundant of all the acids found in ds. Combined with lime, it constitutes the of *bone*; and the phosphat of lime is found muscles and almost all the solid parts of ds; neither are there many of the fluids which it is absent. In the blood phospho- id is found combined with oxide of iron, and in the urine it exists in excess, holding phosphat of lime in solution."

(3.) PHOSPHORIC GAS. See CHEMISTRY, *Index*.

(4.) PHOSPHORIC GLASS. See § 2; and CHEMISTRY, *Index*.

(5.) PHOSPHORIC MATCHES. (6.) PHOSPHORIC OXIDES. (7.) PHOSPHORIC SPAR. } See CHEMISTRY, *Index*.

PHOSPHORITE, a name formerly given to the phosphat of lime. See MINERALOGY, *Part* II. *Chap.* IV. *Order* II. *Gen.* I. *Sp.* 3. and PHOSPHAT, § I. N° 6.

PHOSPHORIZED, *adj.* a word used by some chemists for *phosphorated*. See PHOSPHORATED.

(1.) PHOSPHOROUS, *adj.* Of or belonging to phosphorus: partaking of the nature of phosphorus: combined with the phosphoric or phosphorous acid.

(2.) PHOSPHOROUS ACID. See CHEMISTRY, *Index*. "The acid, (says Dr Thomson,) "obtained by the burning of phosphorus, differs according to the rapidity of the combustion; or, which is the same thing, according to the temperature in which the process is conducted. When burnt in oxygen gas, in which case the temperature is the highest possible, the product is *phosphoric acid*, which contains a *maximum* of oxygen: When allowed to burn gradually, at the common temperature of the air, the product is *phosphorous acid*, which contains a *minimum* of oxygen. The difference between these two acids had been remarked by Sage, by Proust, and by Morveau; but it was Lavoisier who first, in 1777, demonstrated that they form different compounds with other bodies, and that the difference between them is owing to the different proportions of oxygen, which they contain. Phosphorous acid is prepared by exposing phosphorus during some weeks to the ordinary temperature of the atmosphere, even in winter; when the phosphorus undergoes a slow combustion, and is gradually changed into a liquid acid. For this purpose, it is usual to put small pieces of phosphorus on the inclined side of a glass funnel, through which the liquor, which is formed, drops into the bottle placed to receive it. From one ounce of phosphorus about 3 oz. of acid liquor may be thus prepared. It was called *phlogisticated phosphoric acid* by Morveau, from a supposition that it was a compound of phosphoric acid and phlogiston. Phosphorous acid, thus prepared is a viscid liquid, of different degrees of consistence, adhering like oil to the sides of the glass vessel in which it is contained. It emits the smell of garlic, especially when heated. Its taste is acid, like that of phosphoric acid, and it produces the same effect upon vegetable colours. It combines with water in every proportion, but it cannot, like phosphoric acid, be obtained in a concrete state. When heated, part of the water which it contains is at first evaporated; then large bubbles of air rise to the surface, there they break and emit a dense white smoke, or even take fire, if the experiment be performed in an open vessel. The emission of these bubbles of phosphorated hydrogen gas continues for a long time: when the process is finished, the acid which remains is no longer phospho-

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rous out *phosphoric* acid. These phenomena would lead one to suspect, that phosphorous acid is not, as has been hitherto supposed, a compound of phosphorus and oxygen, but that it is phosphoric acid saturated with phosphorated hydrogen gas. This acid is converted into phosphoric acid by exposure to air or oxygen gas. The process is exceedingly slow, and the conversion is never complete. It succeeds better when the acid is diluted with a great proportion of water. Phosphorous acid is not acted upon by any of the simple combustibles, except charcoal, and perhaps hydrogen. Charcoal decomposes it at a red heat, as well as phosphoric acid. The products are carbonic acid and phosphorus. Its action on metals is exactly similar to that of phosphoric acid, excepting only that the hydrogen gas, evolved during the oxidation of the metals, has a fetid smell, and holds phosphorus in solution. It combines with alkalies, earths and metallic oxides, and forms compounds distinguished by the name of *Phosphites*." (See PHOSPHITE, N° 1—8.) "Sulphuric acid produces no change upon it while cold; but at a boiling heat it parts with some of its oxygen, and the phosphorous acid is converted into phosphoric acid. Nitric acid also, when assisted by heat, converts it readily into phosphoric acid. This furnishes us with by far the best process for obtaining PHOSPHORIC ACID at present known. Mix phosphorous acid, obtained by slow combustion, with one 8th of its weight of nitric acid of the same specific gravity 1·3, and distil. The nitric acid is decomposed, and pure phosphoric acid remains behind. For this process we are indebted to Fourcroy. (ii, 86.) The affinities of phosphorous acid, as ascertained by Bergman, Fourcroy, and Vauquelin, observe the following order: Lime, barytes, strontian, potass, soda, ammonia, glucina, alumina, zirconia, metallic oxides." *Syst. of Chem.* Vol. II. p. 30—33.

(3.) PHOSPHOROUS HYDROGEN GAS, a compound aerial fluid, thus produced: "When bits of phosphorus" (says our learned author) "are kept for some hours in hydrogen gas, part of the phosphorus is dissolved. This compound gas, to which Fourcroy and Vauquelin, the discoverer of it, have given the name of *phosphorous hydrogen gas*, has a slight smell of garlic. When bubbles of it are made to pass into oxygen gas, a very brilliant bluish flame is produced, which pervades the whole vessel of oxygen gas. It is obvious, that this flame is the consequence of the combustion of the dissolved phosphorus." (*Syst. Chem.* Vol. I. p. 57.) Perhaps it is by this preparation of the hydrogen gas, or by that of the phosphorated hydrogen gas, that Mr Lebon illuminates his THERMOLAMPE. See HYDROGENE GAS, and PHOSPHORATED, § 3.

(1.) * PHOSPHORUS. PHOSPHOR. *n. s.* [*phosphorus*, Lat.] 1. The morning star.—

Why fit we sad when *phosph'rus* shines so clear?
Pope.

2. A chemical substance which, exposed to the air, takes fire.—*Phosphorus* is obtained by distillation from urine putrified, by the force of a very vehement and long continued fire. *Pemberton.*—Of lambent flame you have whole sheets in a handful of *phosphor*. *Addison.*—Liquid and solid *phosphorus*, show their flames more conspicuously, when exposed to the air. *Cheyne.*

(2.) PHOSPHORUS, (§ 1. *def.* 2.) is a name given to certain substances which shine in the dark without emitting heat. By this circumstance they are distinguished from the PYROPHORI, which though they take fire on being exposed to the air, are yet entirely destitute of light before this exposure. See CHEMISTRY, *Index*. Besides these however, it has been found that almost all terrestrial bodies, upon being exposed to the light, will appear luminous for a little time in the dark, metals only excepted. This points out a general division of the phosphori into two classes; namely such as require to be exposed to the light either of the sun or of some artificial fire, before they become luminous; and such as do not. Of the former kind are the Bolognian phosphorus, Canton's phosphorus, the phosphori from earths. Of the latter kind are rotten wood, the scales of fishes, and the phosphorus of urine. (See Light, § 9, 10.) To these we may add some other substances which become luminous in another way, *viz.* the mass which remains after the distillation of volatile sal ammoniac with chalk, lost fingernails, and the phosphorus of urine dissolved in spirit of wine. The first, which is a composition of the muriatic acid of the sal ammoniac with chalk, after being fused in a crucible, becomes luminous when struck with any hard body; sugar is luminous when grated or scraped in the dark; and the solution of phosphorus in spirit of wine is luminous only when dropped into water, and even then the light is only perceived while the drops fall into the liquid. One part of phosphorus communicates this property to 600 parts of spirit of wine. There is a remarkable difference between the light of rotten wood, fishes, and that of phosphorus of urine, even when it is not in an ignited state; for this last does not cease to be luminous even when included in an exhausted receiver; the contrary of which happens to rotten wood and fishes. If air is strongly blown upon this phosphorus from a pair of bellows, it will extinguish its light for a time, which is not the case with the other kinds. When kept in water, and placed in a warm room, the phosphorus of urine discharges such copious and bright flashes into the air above it, as are apt to surprise, and even frighten those who are not acquainted with it. These corusations are also exhibited in their passage through the water, which expand as soon as they get above it; however the experiment can only be tried to advantage in warm weather, and in a cylindrical glass vessel above three quarters filled with water. The phenomena exhibited by the earthy phosphori are very curious; both on account of the singular circumstances in which they exhibit their light, and the varieties observed in the light itself. All of them emit no light till they have been first exposed to the light of the sun, or some other luminous body. After that, they are luminous in the dark for a considerable time; but by degrees the light dies away, and they emit no more till after another exposure to the sun. But if this happens to be too long continued, they are then irrecoverably spoiled. The same thing will happen if they

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ing too much heated without any expoſure to ght. If a phoſphorus, which has juſt ceaſed to luminous, be heated, it will again emit light ithout any expoſure to the ſun; but by this its oſphoric quality is weakened, and will at laſt deſtroyed. Indeed theſe phoſphori are ſo tenr, and impatient either of light or heat, that beſt method of rendering them luminous occaonally, is by diſcharging an electric bottle them. The light of the flaſh immediately lls the phoſphorus, and it continues luminor a conſiderable time, after which it may be revived by another flaſh, and ſo on. wever, with all the care that can be taken, phoſphori are very far from being perpetuor has any method been yet fallen upon to ep them ſo. The ſingularities in the light e phoſphor. are, that they emit light of inifferent and moſt beautiful colours. This difce of colours ſeems to be natural to them; me will at firſt emit a green, others a red, a violet, &c. at their formation. How- the beſt kinds agree in this ſtrange properhat if they are expoſed to a red light, they a red light in the dark; and the ſame of oolours. But this muſt not be underſtood t limitation; nor is the phoſphoreal light time ſo bright as the luminous body, whatwas, by which it was kindled. Neither to imagine, that any particular phoſphoa particular kind of light appropriated to the ſame phoſphorus which at one time purple light, will at another emit a green, t of ſome other colour.

"PHOSPHORUS," (ſays Dr Thomſon,) pure, is of a clear, tranſparent, yellowiſh ; but when kept ſome time in water, it s opaque internally, and then has a great ance to white wax. Its conſiſtence is that of wax; it may be cut with a knife, ed to pieces with the fingers. It is inſoluater. Its ſpecific gravity is 1·714. It melts temperature of 99°. Care muſt be taken to oſphorus when melted under water; for ombuſtible, that it cannot be melted in air, without taking fire. When phoſ is newly prepared, it is always dirty, beed with a quantity of charcoal duſt and impurities. Theſe may be ſeparated by it under water, and ſqueezing it while through a piece of clean ſhamoy leather." bſequent operations are deſcribed under STRY, as well as the hiſtory of its diſco- 1669, by Brandt, Boyle, and Kunckel; ſtand reſpecting it by Kraft. All theſe made it from urine; but in 1769, Gahn, ſh chemiſt, diſcovered that phoſphorus is ed in *bones*; after which, it was repeatedacted from them by Scheele, Chaptal, and Dr Thomſon recommends the following of Fourcroy and Vauquelin: "Let a of bones be burnt, till they ceaſe to or to give out any odour; and let them ards be reduced to a fine powder. Put owder into a baſon of porcelain; dilute it times its weight of water, and then add ally (ſtirring the mixture after every addition) two 5ths of the weight of the powder of ſulphuric acid. The mixture becomes hot, and a vaſt number of air bubbles are extricated. Leave the mixture in this ſtate for 24 hours, taking care to ſtir it well every now and then with a glaſs or porcelain rod, to enable the acid to act upon the powder. The whole is now to be poured on a filter of cloth; the liquid which runs through is to be received in a porcelain baſon; and the white powder which remains on the filter, after pure water has been poured on it repeatedly, may be thrown away. Into the liquid in the porcelain baſon, which has a very acid taſte, ſugar of lead is to be poured ſlowly; a white powder immediately falls to the bottom; the ſugar of lead muſt be added as long as any of this powder is formed. Throw the whole upon a filter. The white powder which remains is to be well waſhed, allowed to dry, and then mixed with one 6th of its weight of charcoal powder. This mixture is to be put into the earthen ware retort; A, *Plate* 273. The retort is to be put into a ſand bath B, and the beak of it plunged into a veſſel of water C, juſt under the ſurface. Heat is now to be applied gradually till the retort be made red hot. A vaſt number of air bubbles iſſue from the beak of the retort, ſome of which take fire when they come to the ſurface of the water. At laſt there drops out a ſubſtance, which has the appearance of melted wax, and which congeals under the water. This ſubſtance is *phoſphorus*."—"If the air be excluded, phoſphorus evaporates at 219°, and boils at 554°. When phoſphorus is expoſed to the atmoſphere, if the temperature be not lower than 43°, it emits a white ſmoke, which has the ſmell of garlic, and is luminous in the dark. It is occaſioned by the gradual combuſtion of the phoſphorus, which at laſt diſappears. The combuſtion of phoſphorus, like that of ſulphur, is nothing elſe than its combination with oxygen: for during the proceſs, no new ſubſtance appears, except the acid, accompanied with much heat and light.—Phoſphorus is capable of combining with many other bodies: the compounds produced are called PHOSPHURETS. Phoſphorus, uſed internally, is poiſonous. In very ſmall quantities, (as one 4th of a grain,) when very minutely divided, it is ſaid by Leroi to be very efficacious in reſtoring the force of young perſons exhauſted by ſenſual indulgences." *Syſt. of Chem.* vol. I. p. 34—43.

(4.) PHOSPHORUS, in aſtronomy, the name among the Greeks for the *Morning Star*, or the planet VENUS, when ſhe riſes before the Sun; called by the Latins LUCIFER, and by the French, *Etoile de Berger*.

(5.) PHOSPHORUS, BALDWIN'S. See CHEMISTRY, *Index*.

(6.) PHOSPHORUS, BOLOGNIAN. See BOLOGNIAN, and CHEMISTRY, *Index*.

(7.) PHOSPHORUS, LIQUOR OF. See CHEMISTRY, *Vocab.* I.

(8.) PHOSPHORUS, MEDICINAL EFFECTS OF. This extraordinary ſubſtance, has lately been employed as a medicine, by Alphonſus Leroi, profeſſor at the Medical School of Paris. Its effects are thus deſcribed in the *Bulletin de la Société*

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Philomatique, 1798. 1. Phosphorus, administered internally in consumptions, gives a certain degree of activity to life, and revives the patients without raising their pulse. Leroi being called to a woman, at the point of death, who was quite worn out in that disease, which she had laboured under for 3 years, in compliance with the desire of her husband, composed a medicine of a portion of syrup diluted with water, in which a few sticks of phosphorus had been kept. Next day she found herself much better. She was greatly revived for a few days; and did not die till about a fortnight after. 2. Leroi himself was so imprudent, as to take 2 or 3 gr. of solid phosphorus, combined only with treacle, from which he experienced the most dreadful symptoms. At first he felt a burning heat in the whole region of his stomach, which seemed to be filled with gas that escaped by the mouth. Being dreadfully tormented, he tried to vomit, but in vain; and found relief only by drinking cold water from time to time. His uneasy sensations were at length allayed; but next morning he was endued with an astonishing muscular force, and was urged with an almost irresistible impulse to try its energy. The effects of this medicine at length ceased, adds the author, *a la suite d'un priapisme violent!* 3. In many cases he employed, and still employs, phosphorus internally with great benefit, to restore and revive young persons exhausted by excesses. He divides the phosphorus into very small particles, by shaking it in a glass filled with boiling water. He continues to shake it, plunging it into cold water, and thus obtains a kind of precipitate of phosphorus, exceedingly fine, which he bruises slowly with a little oil and sugar, or afterwards uses as a liquid electuary, by diluting the whole in the yolk of an egg. By this medicine he has made astonishing cures, and restored the strength of his patients in a very short time. 4. In malignant fevers, the use of phosphorus internally, to check the progress of gangrene, has succeeded beyond expectation. The author relates several instances. 5. Pelletier told him, that having left, through negligence, some phosphorus in a copper bason, that metal was oxydated, and remained suspended in the water. Having thoughtlessly thrown out the water in a small court in which ducks were kept, these animals drank of it, and all died. *Mais le mal* (says the author) *couvrit toutes ses femelles jusques au dernier instant de sa vie!*" This accords with the effect experienced by Leroi. 6. He relates a fact which proves the astonishing divisibility of phosphorus. Having administered to a patient some pills, in which there was above $\frac{1}{4}$ of a grain of phosphorus, and having occasion afterwards to open the body, he found all the internal parts *luminous*; and even the hands of the person, who had performed the operation, though washed, and well dried, retained a phosphoric splendor for a long time after. 7. The phosphoric acid, used as a lemonade, has been serviceable in the cure of a great number of diseases. 8. Leroi says, that he oxydated iron with phosphorus, and obtained, 1. the common means, a white oxyd, almost irreducible, which he thinks may be employed with advantage in the arts, particularly in painting with oil, and in enamel, instead of the white oxyd of lead. This white oxyd of iron occasioned violent retchings to the author, who ventured to put a small particle of it on his tongue. He therefore considers this oxyd as a terrible poison. He was not able to reduce it but by fixed alkali and the glass of phosphorus. 9. By phosphorus he decomposed and separated from their bases the sulphuric, muriatic, and nitric acids; by it phosphoric acid he transmuted earths; and with calcareous earth he can make magnesia. By phosphorus he can effect the dissipation of rubies, the fusion of emeralds, and the vitrification of mercury. (*Philos. Mag.* Vol. 2.) If British practitioners wish to try this medicine, they will need, after Leroi's experiments, to do it with utmost caution.

(9.) Phosphorus of Homberg is the with the MURIAT OF LIME. See CHEMI *Index*.

PHOSPHURE, } or PHOSPHORET, [phos PHOSPHURET, } *retum*,] a compound produced by a combination of non-oxy phosphorus with different bases. Of thes described by Dr Thomson, in his *Syst. of* Vol. 1.

1. PHOSPHURET OF ANTIMONY. "W qual parts of antimony and phosphoric mixed, with a little charcoal powder, and in a crucible, phosphuret of antimony is ced. It is of a white colour, brittle, agg minated when broken, and at the fracture number of small cubic facettes. When me emits a green flame, and the white oxyd o mony sublimes. It may likewise be prepa fusing equal parts of antimony and phos glass; or by dropping phosphorus into antimony." *Syst. of Chem* vol. I. 188.

2. PHOSPHURET OF ARSENIC. "Arse bines readily with phosphorus. The ph may be formed by distilling equal parts gredients over a moderate fire. It is bl brilliant, and ought to be preserved in w may be formed also by putting equal p phosphorus and arsenic into water, and the mixture moderately hot." *Syst of Chem.* p. 197.

3. "PHOSPHURET OF BARYTES may be ed, by putting a mixture of phosphorus a rytes into a glass tube close at one end, and ing the mixture, by putting the tube upon ing coals. The combination takes place ra pidly. This phosphuret is of a dark brow lour, very brilliant, and very fusible. When tered, it exhales the odour of phosphoret drogen gas. When thrown into water, it dually decomposed, phosphorated hydroge is emitted, which takes fire when it comes surface of the water, and the phosphorus dually converted into phosphoric acid." 421.

4. PHOSPHURET OF CARBON. "Phosph is capable of combining with carbon or ch *Phosphuret of carbon* was first examined by Proust, the celebrated professor of chemis Segovia in Spain. It is the red substance w remains behind, when new made phosphorus strained through shamoy leather. To sep

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from it a ſmall quantity of phoſphorus which it contains in excefs, it ſhould be put into a retort, and expoſed for ſome time to a moderate heat. What remains behind is the pure phoſphuret of carbon. It is a light flocky powder, of a lively orange red, without taſte or ſmell. When heated in the open air, it burns rapidly, and a quantity of charcoal remains behind." *Ibid.* p. 51.

5. "PHOSPHURET OF COBALT may be formed by heating the metal red hot, and then gradually dropping in ſmall bits of phoſphorus. It contains about one 15th of phoſphorus. It is white and brittle, and when expoſed to the air, ſoon loſes its metallic luſtre. The phoſphorus is ſeparated by heat, and the cobalt is oxydated. This phoſphuret is much more fuſible than pure cobalt. *Ibid.* p. 204.

6. "PHOSPHURET OF COPPER was firſt formed by Margraf, by diſtilling phoſphorus and oxide of copper together. It formed moſt eaſily by projecting phoſphorus into red hot copper. It is of a white colour, and, according to Pelletier, is compoſed of 20 parts of phoſphorus, and 80 of copper. It is harder than iron; it is not ductile, it cannot eaſily be pulveriſed. Its ſpecific gravity is 7·1220. It cryſtallizes in four-ſided priſms. It is much more fuſible than copper. When expoſed to the air, it loſes its luſtre, becomes black, falls to pieces, the copper is oxydated, and the phoſphorus converted into phoſphoric acid. When heated, the phoſphorus burns, and leaves the copper under the form of black ſcoriæ. M. Pelletier formed this phoſphuret by melting 16 parts of copper, 16 of phoſphoric glaſs, and one of charcoal." *Ibid.* p. 117.

7. PHOSPHURET OF GOLD. "Mr Pelletier combined gold with phoſphorus, by melting together in a crucible half an ounce of gold and an ounce of phoſphoric glaſs, ſurrounded with charcoal. The *phoſphuret of gold* thus produced was brittle, whiter than gold, and had a cryſtallized appearance. It was compoſed of 23 parts of gold, and one of phoſphorus. He formed the ſame compound by dropping ſmall pieces of phoſphorus into gold in fuſion." *Ibid.* p. 90.

8. "PHOSPHURET OF IRON may be formed by fuſing in a crucible 16 parts of phoſphoric glaſs, 16 parts of iron, and half a part of charcoal in powder. It is magnetic, very brittle, and appears white when broken. When expoſed to a ſtrong heat, it melts, and the phoſphorus is diſſipated. It may be formed alſo by melting equal parts of phoſphoric glaſs and iron filings. Part of the iron combines with the oxygen of the phoſphoric glaſs, and is vitrified; the reſt forms the phoſphuret, which ſinks to the bottom of the crucible. It may be formed alſo by dropping ſmall bits of phoſphorus into iron filings heated red hot. It was firſt diſcovered and examined by Bergman, who took it for a new metal, and called it SIDERUM." *Ibid.* p. 127.

9. "PHOSPHURET OF LEAD may be formed by mixing together equal parts of filings of lead and phoſphoric glaſs, and then fuſing them in a crucible. It may be cut with a knife, but ſeparates into plates when hammered. It is of a ſilver white colour with a ſhade of blue, but ſoon tarniſhes when expoſed to the air. It may alſo be formed by dropping phoſphorus into melted lead. It is compoſed of 12 parts of phoſphorus, and 88 of lead." *Ibid.* 154.

10. "PHOSPHURET OF LIME may be formed by the following proceſs: put into the bottom of a glaſs tube, cloſe at one end, one part of phoſphorus; and holding the tube horizontally, introduce 5 parts of lime in powder, ſo that they ſhall be about two inches above the phoſphorus. Then place the tube horizontally among burning coals, ſo that the part of it which contains the lime may be made red hot, while the bottom of the tube containing the phoſphorus remains cold. When the lime becomes red hot, raiſe the tube, and draw it along the coals, till that part of it which contains the phoſphorus is expoſed to a red heat. The phoſphorus is immediately volatilized, and paſſing through the hot lime, combines with it. During the combination, the maſs becomes of a glowing red heat, and a quantity of phoſphorated hydrogen gas is emitted, which takes fire when it comes into the air. Phoſphuret of lime has a deep brown colour, and is moulded into the ſhape of the tube. It has no ſmell, and falls to pieces in the air. It is inſoluble in water, but it decompoſes it. Phoſphorated hydrogen gas is emitted, which takes fire as ſoon as it comes to the ſurface of the water. If phoſphuret of lime, after being kept for ſome time in water, be taken out and dried, it flames when muriatic acid is poured upon it, owing to the rapid emiſſion of phoſphorated hydrogen gas." *Ibid.* p. 432.

11. PHOSPHURET OF MANGANESE. "Phoſphorus may be combined with manganeſe by melting together equal parts of the metal and of phoſphoric glaſs; or by dropping phoſphorus upon red hot manganeſe. The phoſphuret is of a white colour, brittle, granulated, diſpoſed to cryſtallize, not altered by expoſure to the air, and more fuſible than manganeſe. When heated, the phoſphorus burns, and the metal becomes oxydated." *Ibid.* p. 211.

12 "PHOSPHURET OF NICKEL may be formed either by fuſing nickel along with phoſphoric glaſs, or by dropping phoſphorus into it while red hot. It is of a white colour, and when broke, exhibits the appearance of very ſlender priſms collected together. When heated, the phoſphorus burns, and the metal is oxydated. It is compoſed of 83 parts of nickel, and 17 of phoſphorus." *Ibid.* p. 164.

13. PHOSPHURET OF PLATINUM. "Platinum unites without difficulty to phoſphorus. By mixing together an ounce of platinum, an ounce of phoſphoric glaſs, and a drachm of powdered charcoal, and applying a heat of about 32° Wedgwood. M. Pelletier formed a *phoſphuret of platinum* weighing more than an ounce. It was partly in the form of a button, and partly in cubic cryſtals. It was covered above by a blackiſh glaſs. It was of a ſilver white colour, very brittle, and hard enough to ſtrike fire with ſteel. When expoſed to a fire ſtrong enough to melt it, the phoſphorus was diſengaged, and burnt on the ſurface. He found alſo, that when phoſphorus was projected on red hot platinum, the metal inſtantly fuſed, and formed a phoſphuret. As heat expels

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expels the phosphorus, Mr Pelletier has proposed this as an easy method of purifying platinum." *Ibid.* p. 95.

14. PHOSPHURET OF SILVER. "Silver was first combined with phosphorus by Mr Pelletier. If one ounce of silver, one ounce of phosphoric gas, and 2 drams of charcoal, be mixed together, and heated in a crucible, *Phosphuret of silver* is formed. It is of a white colour, and appears granulated or crystallized. It breaks under the hammer, but may be cut with a knife. It is composed of 4 parts of silver and 1 of phosphorus. Heat decomposes it by separating the phosphorus. Pelletier has observed, that silver in fusion is capable of combining with more phosphorus than solid silver: for when phosphuret of silver is formed by projecting phosphorus into melted silver, after the crucible is taken from the fire, a quantity of phosphorus is emitted the moment the metal congeals. *Ibid.* p. 99.

15. "PHOSPHURET OF STRONTIAN may be prepared (says Dr Thomson, p. 436.) by the same process as the phosphuret of barytes;" (see N° 3.) only substituting strontian for barytes.

16. PHOSPHURET OF SULPHUR. "Phosphorus combines readily with sulphur, as Margraf discovered during his experiments on phosphorus. This combination was afterwards examined by Mr Pelletier. The two substances are capable of being mixed in different proportions: 72 grains of phosphorus and 9 of sulphur, heated in 4 oz. of water, melt with a gentle heat. The compound remains fluid till it be cooled down to 77°, and then becomes solid: 72 gr. phosphor. 18 sulphur, congeal at 59°: 72 phos. 36 sulph. at 50°: 72 phos. 72 sulphur at 41: 72 phos. 216 sulphur at 99°. Phosphorus and sulphur may be combined also by melting them together without water; but the combination takes place so rapidly, that they are apt to rush out of the vessel, if the heat be not exceedingly moderate." *Syst. Chem.* Vol. I. p. 42.

17. "PHOSPHURET OF TIN may be formed by melting in a crucible equal parts of tin and phosphoric glass. Tin has a greater affinity for oxygen than phosphorus has. Part of the metal therefore combines with the oxygen of the glass during the fusion, and flies off in the state of an oxide, and the rest of the tin combines with the phosphorus. The phosphuret of tin may be cut with a knife; it extends under the hammer, but separates in laminæ. When newly cut, it has the colour of silver; its filings resemble those of lead. When these are thrown on burning coals, the phosphorus takes fire. This phosphuret may also be formed by dropping phosphorus gradually into melted tin. PELLETIER, to whom we are indebted for our knowledge of all the phosphurets, says, it is composed of 85 parts of tin, and 15 of phosphorus." *Ib.* p. 144.

18. "PHOSPHURET OF TITANIUM has been formed by Mr Chevenix: He put a mixture of charcoal, phosphat of titanium, (phosphoric acid combined with oxide of titanium,) and a little borax, into a double crucible, well luted, and exposed it to the heat of a forge. A gentle heat was first applied, which was gradually raised for three quarters of an hour, and maintained for half an hour as high as possible. The phosphuret was found in the crucible in the form of a metallic button. It is of a pale white colour, brittle and granular; and does not melt before the blow-pipe. *Ibid.* p. 225.

19. PHOSPHURET OF TUNGSTEN. "Phosphorus is capable of combining with tungsten, but none of the properties of the phosphuret have been ascertained." *Ib.* p. 216.

20. PHOSPHURET OF ZINC. "Zinc may be combined with phosphorus, by dropping small bits of phosphorus into it while in a state of fusion. Pelletier added also a little resin, to prevent the oxidation of the zinc. Phosphuret of zinc is of a white colour, and metallic splendour, but resembles lead more than zinc. It is somewhat malleable. When hammered or filed, it emits an odour of phosphorus. When exposed to a strong heat, it burns like zinc." *Ibid.* p. 171.

PHOTINIANS, in ecclesiastical history, a sect of heretics in the 4th century, who denied the divinity of our Lord. They derive their name from

PHOTINUS, their founder, who was bishop of Sirmium, and a disciple of Marcellus. Photinus published, in the year 343, his notions respecting the Deity, which were repugnant both to the orthodox and Arian systems. He asserted, that Jesus Christ was born of the Holy Ghost and the Virgin Mary; that a certain divine emanation, which he called the *Word*, descended upon him, and that because of the union of the divine word with his human nature, He was called the Son of God, and even God himself; and that the Holy Ghost was not a person, but merely a celestial virtue proceeding from the Deity. Both parties condemned the bishop in the councils of Antioch and Milan, held in the years 345 and 347. He was condemned also by the council at Sirmium in 351, and was afterwards degraded from the episcopal dignity, and at last died in exile in the year 365 or 375. His opinions were afterwards revived by Socinus.

PHOTINX. See MUSIC, § 30.

PHOTIUS, patriarch of Constantinople, was one of the finest geniuses of his time. He was born in Constantinople, and descended of a noble family. His merit raised him to the patriarchate; for Bardas having driven Ignatius from the see, Photius was consecrated by Asbestus in 859. Ignatius condemned Ignatius in a synod, whereupon the pope excommunicated him, and he, to balance the account, anathematized the pope. Basilius the Macedon, the emperor whom Photius had reproved for the murder of Michael, expelled him, and restored Ignatius; but afterwards re-established Photius, upon Ignatius's death, in 878. At last being wrongfully accused of a conspiracy against Leo the philosopher, son and successor to Basil, he was expelled by him in 886, and died soon after. He wrote a *Bibliotheca*, which contains an examen of 280 authors: also 253 epistles; the *macanon* under 14 titles; an abridgment of the acts of several councils, &c. His natural abilities were very great. There was no branch of art or science, in which he was not versed. He was first raised to the chief dignities of the empire, being made principal secretary of state, captain of the guards, and a senator; and in all these stations acquitted himself well. His rise to the patriarchate was very quick; for being a layman, he was made

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nonk the first day, reader the next, and the following days sub-deacon, deacon, and priest. So hat in six days he attained to the highest office in he church. But his unbounded ambition made im commit excesses which rendered him a scourge o those about him. Fabricius calls his *Bibliotheca, on liber, sed insignis thesaurus*, "not a book, but a illustrious treasure," in which are contained any curious things no where else to be found. t was brought to light by Andrew Schottus, and ommunicated by him to David Hoeschelius, who aused it to be printed in 1601. Schottus transated it into Latin, and printed his translation at ne in 1606. The Greek text and translation, ere printed at Geneva in 1611. The last and best edition was printed at Rouen in 1653, folio.

PHOTOMETER, *n. s.* an apparatus for measuring the intensity of light, and the transparency of medium through which it passes. Instruments for this purpose have been invented by Count Rumford, M. De Saussure, that eminent Mathematician, John Leslie, and others. Mr Leslie's is the simplest instrument of the kind, but it measures the momentary intensities of light: a description of all of them would take up too much room. We therefore refer the inquisitive reader to *Nicholson's Philosophical Journal*, vol. 3. De Saussure's photometer is also called a *Diameter*. By means of his photometer, Count Rumford found, that passing through a pane of fine clear, well polished glass, such as is commonly used for mirrors, there was lost ·1973 of its whole quantity, *i. e.* of the quantity which impinged on the glass; that when made to pass through two panes of such glass standing parallel, but not touching each other, the loss was ·3184 of the whole; and that in passing through a very thin clear, colourless pane of window-glass, the loss is only ·1263. Hence he infers that this apparatus might be very useful to the optician, to determine the degree of transparency of glass, and direct his choice in the purchase of that important article of his trade. The quantity of light, when reflected from the very best looking-glass mirror the Count ascertained, by 5 experiments, to be one 3d of the whole that fell upon the mirror.

PHOXUS, a general of the Phocæans, who fled to Lampsacus. *Polyæn.* 8.

PHRAATES, or PHRAHATES. The name of several kings of Parthia. See PARTHIA, § 3–5.

PHRAGANDÆ, an ancient people of Thrace. Ptol. 6, c. 25.

PHRAORTES, the son of Dejoces, and the 2d king of the Medes, succeeded his father about A. M. 3657, and reigned 22 years. He was killed in a fruitless attempt on Nineveh, and was succeeded by his son Cyaxares I.

* PHRASE. *n. s.* [φρασις.] 1. An idiom; a mode of speech peculiar to a language. 2. An expression; a mode of speech.—

Now mince the sin,
And mollify damnation with a *phrase*. *Dryden.*

To fear the Lord, and depart from evil, are phrases which the scripture useth to express the power of religion. *Tillotson.* 3. Stile; expression.—

Thou speak'st
Better *phrase* and matter than thou didst. *Shak.*

(2.) PHRASE, in grammar, an elegant turn or manner of speech, peculiarly belonging to this or that occasion, this or that art, or this or that language. Thus we say, an Italian *phrase*, an eastern *phrase*, a poetical *phrase*, a rhetorical *phrase*.

(3.) PHRASE is sometimes also used for a short sentence, or small set or circuit of words, constructed together. In this sense, Father Buffier divides phrases into complete and incomplete. Phrases are *complete* where there is a noun and a verb, each in its proper function; *i. e.* where the noun expresses a subject, and the verb the thing affirmed of it. *Incomplete* phrases are those where the noun and the verb together only do the office of a noun; consisting of several words without affirming any thing, and which might be expressed in a single word. Thus, *that which is true*, is an incomplete phrase, which might be expressed in one word *truth*; as, *that which is true satisfies the mind*, i. e. *truth satisfies the mind*.

(4.) PHRASE, in music. (See MUSIC, *Part* I. *Chap.* IV. § 43.) A phrase, in melody is a series of modulations, or in harmony a succession of chords, which form without interruption a sense more or less complete, and which terminate in a repose by a cadence more or less perfect, *Rousseau*.

* *To* PHRASE. *v. a.* [from the noun.] To stile; to call; to term.—

These suns,
For so they *phrase* them, by their heralds challenged
The noble spirits to arms. *Shak. Henry* VIII.

(1.) * PHRASEOLOGY. *n. s.* [φρασις and λογος.] 1. Stile; diction.—The scholars of Ireland seem not to have the least conception of a stile, but run on in a flat *phraseology*, often mingled with barbarous terms. *Swift's Miscellanies.* 2. A phrase book. *Ainsworth.*

(2.) PHRASEOLOGY is also used for a collection of the phrases or elegant expressions in any language. See PHRASE, § 2.

PHREAS, John, M. D. an English physician, born at London, in the end of the 14th century. He was educated at Oxford and became fellow of Baliol college. He translated from the Greek into Latin, *Diodorus Siculus*, and other ancient works. He read lectures on medicine at Ferrara, Florence and Padua, at which last university he was presented with his degree. He died in 1465.

PHREATIS, or } in Grecian antiquity, was a
PHREATIUM, } court belonging to the civil government of Athens, situated upon the sea-shore, in the Piræus. The name is derived from αντο τε φρεατος, because it stood in a *pit*; or, as others suppose, from the hero *Phreatus*. This court heard such causes as concerned persons who had fled out of their own country for murder, or those that fled for involuntary murder, and who had afterwards committed a deliberate and wilful murder. The first who was tried in this place was Teucer, on a groundless suspicion that he had been accessory to the death of Ajax. The accused was not allowed to come to land, or so much as to cast anchor, but pleaded his cause in his bark; and if found guilty, was committed to the mercy of the winds and waves, or, as some say, suffered there condign punishment; if innocent, he was only cleared of the second fact, and, according to custom, underwent

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went a twelvemonth's baniſhment for the former. See Potter's *Gr. Antiq.* vol. i. p. 111.

(1.) * PHRENETICK. PHRENTICK. *adj.* [φρενητικὸς; *phrenetique*, Fr.] Mad; inflamed in the brain; frantick.—*Phreneticks* imagine they ſee that without, which their imagination is affected with within. *Harvey.*—

What œſtrum, what *phrenetick* mood,
Makes you thus laviſh of your blood? *Hudibras.*

—The world was little better than a common hold of *phrenticks* and bedlams. *Woodward's Nat. Hiſt.*

(2.) PHRENETICK is uſed of thoſe who, without being abſolutely mad, are ſubject to ſuch ſtrong ſallies of imagination as in ſome meaſure pervert their judgment, and cauſe them to act in a way different from the more rational part of mankind.

(1.) * PHRENITIS. *n. ſ.* [φρενῖτις.] Madneſs; inflammation of the brain.—It is allowed to prevent a *phrenitis*. *Wiſeman's Surgery.*

(2.) PHRENITIS is the ſame with PHRENSY; an inflammation of the meninges of the brain, attended with an acute fever and delirium. See MEDICINE, *Index*; alſo an account of a ſtrange degree of phrenzy which attacked Charles VI. of France, under the article FRANCE, § 33.

* PHRENSY. *n. ſ.* [from φρένες; *phreneſie*, Fr. whence, by contraction, *phrenſy*.] Madneſs; frantickneſs. This is too often written *frenzy*.] See FRENZY.—Many never think on God, but in extremity of fear, and then they think and do as it were in a *phrenſy*. *Hooker.*—

Demoniack *phrenſy*, moping melancholy. *Milt.*

—Would they only pleaſe themſelves in the deluſion, the *phrenſy* were more innocent; but lunaticks will needs be kings. *Decay of Piety.*—*Phrenſy* or inflammation of the brain, profuſe hemorrhages from the noſe reſolve, and copious bleeding. *Arbuthnot on Aliments.*

* PHRENTICK. See PHRENETICK.

PHRICIUM, an ancient town near Thermopylæ. *Livy*, 36. c. 13.

PHRIDIESGAM, a town of Ruſſia, in Viburg, on the N. coaſt of the Gulf of Finland; 60 miles W. of Viburg. Lon. 44. 20. E. Ferro. Lat. 60. 35. N.

PHRIXUS, 1. a river of Argolis: 2. a town of Elis, built by the Minyæ. *Herod.* iv. c. 148.

PHROLICHINO, a lake of Ruſſia, in Irkutſk; 60 miles N. of Barguzinſk.

PHRONIMA, the daughter of Elearchus, K. of Crete, wife of POLYMNESTUS and mother of Battus, the founder of Cyrene.

PHRURI, an ancient nation of Scythia.

(I.) PHRYGANEA, a genus of inſects, of which Barbut gives the following characters. "The mouth is without teeth, but furniſhed with four palpi: the ſtemmata are three in number: the antennæ are filiform, and longer than the thorax. The wings are incumbent; the under ones are folded." He alſo informs us, that the genus is divided into two ſections; the firſt of which is characterized, by having two truncated ſetæ at the extremity of the abdomen, reſembling the beard of an ear of corn; while the ſecond has the abdomen ſimple, or without appendices. The tarſi of the feet of the firſt family conſiſt of three articulations; thoſe of the ſecond are compoſed of five. The wings of this ſection decline from the inner margin towards the ſides, ſo as to reſemble the ridge of a houſe, and are curved, or turn upwards at their extremity. "This inſect (ſays Mr Barbut), before it becomes an inhabitant of the air, has lived under water, lodged in a kind of tube or ſheath, the inward texture of which is ſilk; outwardly covered with ſand, ſtraws, bits of wood, ſhells, &c. When the hexapod worm is about to change to a chryſalis, he ſtops up the opening of his tube with threads of a looſe texture, through which the water makes its way, but prevents the approach of voracious inſects. The chryſalis is covered with a thin gauze, through which the new form of the inſect is eaſily diſcerned. The phryganea, on the point of changing element, riſes to the ſurface of the water, leaves its tube, riſes into the air, and enjoys the ſun. Of the country, flutters upon flowers and herbs, but is ſoon called away to the water-ſide to depoſite its eggs; whence proceeds its poſterity. The aquatic larvæ are often found in ſtagnating waters, where they wrap themſelves up in the water-plants cut out into regular ſquares, and fitted one into another. Trouts are very greedy of theſe larvæ, which is the reaſon, that in ſome countries, they ſtripping them of their coats, they make uſe of them for fiſhing-baits." There are various different ſpecies of the phryganea; but excluding *phryganea bicauda* and *ſtriata*, they do not eſſentially differ from one another, except in their colour.

1. PHRYGANEA BICAUDA is of a deep brown colour; having a ſingle yellow longitudinal band running acroſs the head and thorax. The legs are of a brown colour, as are the antennæ, which are alſo long and filiform. Two long threads, almoſt as long as the antennæ, terminate the abdomen; whence the name, *bicauda*, *two-tailed*. The wings, which are about a third longer than the body, are veined with brown. They are narrow at the top, broad below, and when they were ſtuck upon the body; which they do croſſing one over the other. This inſect is met with on the banks of rivers and ſtanding waters, carries its eggs in a cluſter at its tail like ſome ſpiders.

2. PHRYGANEA STRIATA is a large ſpecies of a dun colour, except the eyes, which are black, and has a conſiderable reſemblance to the phryganea in the carriage of its wings. The antennæ are as long as the body, and are born ſtraight forwards. The wings are a third larger than the body, having veins of a colour rather deeper than the wings. The feet are large, long, and ſomewhat hairy. Mr Yeats tells us, that the periæ of Geoffroy, the phryganeæ of Linnæus, do not differ generically. It appears, however, from Yeats's experiments, that the phryganeæ remain longer in the chryſalis than the periæ.

(II.) PHRYGANEÆ, THE LESSER, very much reſemble the tineæ; but, upon examining them with a glaſs, the former will be found to be covered with ſmall hairs inſtead of the ſcales which adorn the wings of the latter.

PHRYGES, a river of Aſia Minor, [illegible] Phrygia from Caria and falling into the Hellespont. *Paſſ.*

PHRYGIA, a country in Aſia. From which [illegible] derived

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t derived its name is not certain: ſome ſay it was
om the river PHRYX (now *Sarabat*), which di-
des Phrygia from Caria, and falls into the Her-
us; others from Phrygia, the daughter of Aſo-
s and Europa. The Greek writers tell us, that
e country took its name from the inhabitants,
d theſe from the town of Brygium in Macedo-
, from whence they firſt paſſed into Aſia, and
e the name of *Phrygia* or *Brygia* to the coun-
where they ſettled. Bochart is of opinion that
ract was called Phrygia from the Greek verb
, *to burn* or *parch*; which, according to him,
anſlation of its Hebrew name, derived from
of the ſame ſignification. No leſs various
e opinions of authors as to the exact bound-
of this country; an uncertainty which gave
an obſervation made by Strabo, viz. that
rygians and Myſians had diſtinct bounda-
but that it was ſcarce poſſible to aſcertain
The ſame writer adds, that the Trojans,
ns, and Lydians, are, by the poets, all
ed under the common name of Phrygians,
Claudian extends to the Pſidians, Bithyni-
nd Ionians.

PHRYGIA MAJOR, and indeed all Aſia Mi-
lying in the fifth and ſixth northern cli-
was in ancient times greatly celebrated for
ility. It abounded in all ſorts of grain; be-
the moſt part, a plain country covered
deep rich ſoil, and plentifully watered by
ivers. It was in ſome parts productive of
n and other combuſtible ſubſtances. It
ll ſtocked with cattle, having large plains
ture grounds. The air was anciently
moſt pure and wholeſome, though it is
ſome parts thought extremely groſs, great
the country lying uncultivated. In Phry-
ia were anciently ſeveral cities of great ce-
ſuch as APAMEA, LAODICEA, HIERA-
Gordium, &c.—There were alſo ſome ri-
ers; ſuch as Marſyas, Mæander, &c.
æander is now called *Madre* or *Mindre*.
NDER. The Phrygians accounted them-
e moſt ancient people in the world. Their
however, is extremely dark and uncertain.
s and St Jerome ſay, they were deſcended
ogarmah, one of Gomer's ſons; and that
re known to the Hebrews under the name
AMMANES. The Heathen authors derive
om the Brygians, a people of Macedonia.
is a conjecture totally unſupported, ex-
the ſimilarity of names. Bochart thinks
e Phrygians were the offspring of Gomer
eſt ſon of Japhet; the word Phrygia being
eek tranſlation of his name. Joſephus
Gomer the father of the Galatians; but
the Galatians, muſt neceſſarily mean the
ns inhabiting that part of Phrygia which
atians had made themſelves maſters of; the
ants of Gomer being placed by Ezekiel
ard of Judæa, near Togarmah (which Bo-
takes to be Cappadocia), long before the
paſſed over into Aſia. The ancient Phry-
re deſcribed as ſuperſtitious, voluptuous,
ninate, without any prudence or forecaſt,
of ſuch a ſervile temper, that nothing but
s and ill uſage could make them comply with
their duty; which gave riſe to ſeveral trite and well known proverbs. They are ſaid to have been the firſt inventors of divination by the ſinging, flying, and feeding of birds. Their muſic, commonly called the *Phrygian mood*, is alleged by ſome as an argument of their effeminacy. Their government was monarchical; and all Phrygia was, during the reigns of ſome kings, ſubject to one prince. Ninnacus, Midas, Manis, Gordius, and his deſcendants, were undoubtedly ſovereigns of all Phrygia. But ſome time before the Trojan war, this country was divided into ſeveral petty kingdoms, and we read of divers princes reigning at the ſame time. Apollodorus mentions a king of Phrygia contemporary with Ilus king of Troy. Cedrenus and others ſpeak of one Teuthras, king of a ſmall country in Phrygia, whoſe territories were ravaged by Ajax, himſelf ſlain in ſingle combat, his royal ſeat laid in aſhes, and his daughter, Tecmeſſa, carried away captive by the conqueror. Homer mentions Phorcys and Aſcanius, both princes and leaders of the Phrygian auxiliaries that came to the relief of Troy. Tantalus was king of Sipylus only, and its diſtrict; a prince no leſs famous for his great wealth, than infamous for his covetouſneſs and other deteſtable vices. That Phrygia was ſubdued either by Ninus, as Diodorus Siculus informs us, or by the Amazons, as we read in Suidas, is not ſufficiently warranted. Moſt authors, who mention Gordius, tell us, that the Phrygians having ſent to conſult an oracle, to know how they might put an end to the inteſtine broils which rent their country into many factions and parties, received for anſwer, that the moſt effectual means to deliver themſelves and their country from the calamities they groaned under, was to commit the government to a king. This advice they followed, and placed Gordius on the throne. See GORDIUS, N° I. As to their commerce, all we know is, that Apamea was the chief emporium of all Aſia Minor.—Thither reſorted merchants and traders from all parts of Greece, Italy, and the neighbouring iſlands. Syncellus ſays that the Phrygians were for ſome time maſters of the ſea; and none but trading nations ever prevailed on that element. The country produced many choice and uſeful commodities, which afforded conſiderable exports. They had a ſafe coaſt, and convenient harbours. The Phrygian idols were very numerous. The chief of theſe was Cybele, who went by a variety of names. (See CYBELE.) They alſo worſhipped Bacchus under the name of *Sabazius*; and his prieſts they called *Saboi*. The hiſtory of their kings is uncertain, and the dates of their ſeveral reigns and actions cannot now be fixed; we ſhall refer ſuch of our readers, therefore, as wiſh to know what is certain reſpecting them, to the Ancient Univerſal Hiſtory, already quoted more than once in the preſent article. See alſo GORDIUS, MIDAS, &c.

II. PHRYGIA MINOR. See TROY.

III. PHRYGIA PROPER, according to Ptolemy, was bounded on the N. by Pontus and Bithynia; on the W. by Myſia, Troas, the Ægean Sea, Lydia, Mæonia, and Caria; on the S. by Lycia; on the E. by Pamphylia and Galatia. It lies between 37° and 41° Lat. N. extending in Lon. from 57° to

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62°. The inhabitants of this country, mentioned by Ptolemy, are the Lycaones and Anthemiſenii, towards Lycia; and Moccadelis or Moccadine, the Cyddeſes or Cydiſſes towards Bithynia; and between theſe the Peltini or Speltini, the Moxiani, Phylacenſes, and Hierapolitæ. To theſe we may add the Berecyntes mentioned by Strabo. Phrygia is commonly divided into the Greater and Leſſer Phrygia, called alſo TROAS. But this diviſion did not take place till Troas was ſubdued by the Phrygians; and hence it is more conſidered by ſome Roman writers as a part of Phrygia, than Bithynia, Cappadocia, or any other of the adjacent provinces. In after ages, the Greater Phrygia was divided into two diſtricts or governments; called,

1. PHRYGIA PACATIANA, from Pacatianus, who, under Conſtantine, bore the great office of the præfectus prætorio of the Eaſt: and

2. PHRYGIA SALUTARIS, from ſome miraculous cures ſuppoſed to have been performed there by the archangel Michael.

(1.) PHRYGIAN, *adj.* Of or belonging to PHRYGIA.

(2.) PHRYGIAN STONE, in natural hiſtory, is the name of a ſtone deſcribed by the ancients, and uſed by them in dying; perhaps from ſome vitriolic or aluminous ſalt contained in it, which ſerved to enliven or fix the colours uſed by the dyers. It was light and ſpungy, reſembling a pumice; and the whiteſt and lighteſt were reckoned the beſt. Pliny gives an account of the method of preparing it for the purpoſe of dying, which was by moiſtening it with urine, and then heating it red hot, and ſuffering it to cool.—This calcination was repeated three times, and the ſtone was then fit for uſe. Dioſcorides recommends it in medicine after burning; he ſays it was drying and aſtringent.

(1.) PHRYGIANS, the ancient inhabitants of Phrygia. See PHRYGIA.

(2.) PHRYGIANS, a Chriſtian ſect. See CATAPHRYGIANS and MONTANISTS.

PHRYMA, in botany, a genus of the gymnoſpermia order, belonging to the didynamia claſs of plants; and in the natural method, ranking in the 40th order, *Perſonatæ*.

(1.) PHRYNE, a famous proſtitute, who flouriſhed at Athens about A. A. C. 328. She was miſtreſs of Paxiteles, who drew her picture, which was one of his beſt pieces, and was placed in the temple of Apollo at Delphi. We are told that Apelles painted his Venus Anadyomene after he had ſeen Phryne on the ſea-ſhore naked, and with diſhevelled hair. Phryne became ſo very rich by the liberality of her lovers, that ſhe offered to rebuild Thebes at her own expence, which Alexander had deſtroyed, provided this inſcription was placed on the walls: *Alexander diruit, ſed meretrix Phryne refecit*; which was refuſed. See *Plin.* 34. c. 8.

(2.) PHRYNE, a woman who was accuſed of impiety. When ſhe found that ſhe was going to be condemned, ſhe unveiled her boſom, which ſo influenced her judges, that ſhe was immediately acquitted.

PHRYNICUS; 1. a general of Samos, who endeavoured to betray his country. 2. A flatterer at Athens. 3. A tragic poet of Athens, diſciple to Theſpis. He was the firſt who introduced a female character on the ſtage.

PHRYNIS, 1. a muſician of Mitylene. He was the firſt who obtained a muſical prize at the Panathenæa at Athens. He added two ſtrings to the lyre, which had always been uſed with ſeven by all his predeceſſors. He flouriſhed about A. A. C. 438. He was originally a cook in the houſe of Hiero king of Sicily. 2. A writer in the reign of Commodus, who made a collection of 36 books, of phraſes and ſentences from the Greek authors, &c.

PHRYNO, a celebrated general of Athens, who flouriſhed about A. A. C. 590.

(1.) PHRYXUS, in fabulous hiſtory, ſon of Athamas king of Thebes, by Nephele. After his mother was repudiated, he was purſued with the moſt inveterate fury by his ſtep-mother Ino, becauſe he was to ſit on the throne of Athamas, in preference to her children. His mother apprized him of Ino's intentions upon his life; or according to others, his preceptor; and that after to make his eſcape, he ſecured part of his father's treaſures, and privately left Bœotia with his ſiſter Helle, to go to their relation Æetes king of Colchis. They embarked on board a ſhip, or as we are informed by the poets and mythologiſts, they mounted on the back of a ram, whoſe fleece was of gold, and proceeded on their journey through the air. The height to which they were carried made Helle giddy, and ſhe fell into the ſea, which from us gave his ſiſter a decent burial on the ſhore, and after he had called the place Hellespont from her name, he continued his flight and arrived ſafe in the kingdom of Æetes, where he offered the ram on the altars of Mars. Æetes received him kindly and gave him Chalciope his daughter in marriage. She had by him three ſons, Melas, Argos, and Cylindrus, whom ſome add *Cytorus*. He was afterwards murdered by his father-in-law, who envied him the poſſeſſion of the golden fleece; and Chalciope, to prevent her children from ſharing their father's fate, privately fled from Colchis to Bœotia, as Ino was dead. The fable of the flight of Phryxus from Colchis on a ram has been explained by ſuppoſing that the ſhip on which he embarked was either called by that name, or carried on her prow a figure of that animal. The fleece of gold is accounted for by obſerving, that Phryxus carried away great treaſures from Thebes. Phryxus was placed among the conſtellations of heaven after death. The ram which carried him to Aſia is ſaid to have been the fruit of Neptune's amour with Theophane daughter of Atlas. This ram the gods had given to Athamas to reward his piety and religion, and Nephele procured it for her children when they were going to be ſacrificed to the jealouſy of Ino. Phryxus's murder was ſome time after revenged by the Greeks; it having occaſioned the famous expedition atchieved under Jaſon by many of the princes of Greece, which had for its object the recovery of the golden fleece, and the puniſhment of the king of Colchis for his cruelty to the ſon of Athamas.

(2, 3.) PHRYXUS, a town and river. See PHRIXUS.

PHTEMPH

PHITEMPHUTI. } See PHUT.
PHITENOTES. }

PHTHIA, an ancient town of Theſſaly, in Phthiotis, E. of mount Othrys, famous for being the birth-place of ACHILLES, hence called *Pthius heros*.

PHTHIOTIS, in ancient geography, a province of Theſſaly between the Sinus Pelaſgicus and Sinus Maliacus, Magneſia, and mount Oeta: alſo called ACHAIA. *Panſ.* x. c. 8.

PHTHIRIASIS, the LOUSY EVIL, [from φθειρ, a *louſe*.] It is a louſy diſtemper; children are frequently its ſubjects, and adults are ſometimes troubled with it. The increaſe of lice, in a warm moiſt ſituation, is very great; but a cold and dry air ſoon deſtroys them. On the human body 4 kinds of lice are diſtinguiſhed: 1. The *pediculi*, ſo called becauſe they are more troubleſome with their feet than by their bite. Theſe are in the heads of children, eſpecially if ſore or ſcabby; and often in thoſe of adults, if they are ſlothful and naſty. (See PEDICULUS.) 2. Crab-lice, ſee CRAB LICE. 3. Body lice; theſe infeſt the body, and breed in the clothes of the naſty and ſlothful. 4. A ſort which breed under the cuticle, and are found in the hands and feet: they are of a round form, and ſo minute as often to eſcape the ſight: by creeping under the ſcarf ſkin they cauſe an intolerable itching; and when the ſkin burſts where they lodge, cluſters of them are found there. See CRABRUS. A good diet and cleanlineſs conduce much to the deſtruction of lice. When they are in the head, comb it every day; and after each combing, ſprinkle the pulv. ſem. ſtaph. agr. or pulv. Ind. among the hairs every night, and cover it with a tight cap. Codrochius, in his treatiſe on lice, ſays, that the powdered coc. Ind. excells all other remedies; and that it may be mixed in the pulp of apple, or in lard, and applied overnight to the hair. Some aſſert, that if the pulv. rt. rad. faſſafr. is ſprinkled on the head, and confined with a handkerchief, it deſtroys the lice in one night. The body-lice are deſtroyed by any ſalter, ſour, ſalt, or mercurial medicine, if applied to the ſkin. The black ſoap, and the flower called *cardamine* or *lady's-ſmock*, are ſaid to be ſpecifics in all caſes of lice on the human body.

PHTHIROPHAGES. See PEDICULUS.

PHTHISICAL. *adj.* [φθισικος, *phtyſique*, Fr. from *phthiſick*.] Waſting.—Collection of purulent matter in the capacity of the breaſt, if not ſuddenly diſcharged, doth undoubtedly impell the patient into a *phthiſical* conſumption. *Harvey*.

PHTHISICK. *n. ſ.* [φθισις; *phtyſie*, Fr.] A conſumption.—His diſeaſe was a *phthiſick* or aſthma. *Harvey*.

PHTHISIS. *n. ſ.* [φθισις.] A conſumption.—If the lungs be wounded deep, though they ſuppurate the firſt nine days, yet they terminate in a *phthiſis* or fiſtula. *Wiſeman*.

PHTHISIS is a ſpecies of conſumption, occaſioned by an ulcer in the lungs. See MEDICINE, *Index*. Dr Beddoes has ſuggeſted a new theory of phthiſis, founded on the prevailing pneumatic doctrine in chemiſtry. He fixes on the effect of pregnancy in ſuſpending the progreſs of phthiſis, a fact which, by its mode of operation, might ſuggeſt a method of diminiſhing the havock occaſioned by this diſtemper. "The fœtus (ſays he,) has its blood oxygenated by the blood of the mother through the placenta. During pregnancy there ſeems to be no proviſion for the reception of an unuſual quantity of oxygen. On the contrary, in conſequence of the impeded action of the diaphragm, leſs and leſs ſhould be continually taken in by the lungs. If, therefore, a ſomewhat diminiſhed proportion of oxygen be the effect of pregnancy, may not this be the way in which it arreſts the progreſs of phthiſis? and if ſo, is there not an exceſs of oxygen in the ſyſtem of conſumptive perſons? and may we not, by purſuing this idea, diſcover a cure for this fatal diſorder?" Dr Beddoes thinks, that this ſuppoſition is countenanced by the deficiency of oxygen in the blood of pregnant women, of aſthmatic patients, and of thoſe who labour under ſea-ſcurvy; and by the ſuper-abundance of it in the blood of phthiſical perſons, indicated by its colour, as well as by the aggravation of the ſymptoms of conſumption by breathing oxygen air, and by the relief from inſpiring atmoſpheric air mixed with carbonic acid air; and, laſtly, from the ſmall proportion of deaths among ſea-faring people. Suppoſing acids to act by decompoſition, their alleged effects in producing conſumption are conſiſtent with the author's doctrine, as well as the emaciation preceding and accompanying phthiſis. From theſe facts, Dr Beddoes concludes, that "1. The phthiſical inflammation may ſo alter the ſtructure of the lungs, as to cauſe them to tranſmit a more than ordinary portion of oxygen to the blood; or, 2. Some unknown cauſe having enabled them to tranſmit, or the blood itſelf to attract, more oxygen, an inflammation of the lungs might enſue." Our author in a letter to Dr Eraſmus Darwin, gives an account of his treating with ſucceſs ſeveral caſes of phthiſis according to the principles of this theory. After diſtinguiſhing conſumptions into two kinds, the *florid* and the *pituitous* or *catarrhal*, he obſerves, "that the ſyſtem may be as variouſly affected by means of the lungs as of the ſtomach: that it is impoſſible to doubt, that we are nouriſhed by the lungs as truly as by the ſtomach: and that what we take in at the former entrance, becomes, like our food a part of the ſubſtance of our ſolids as well as of our fluids. By the lungs we can alſo introduce effectual alteratives of the blood, and by conſequence of all the parts nouriſhed by the blood." He then acquaints us more particularly with the apparatus requiſite for the practice propoſed. 1ſt, It ſhould be able to furniſh azotic, hydrogen, carbonic, and oxygen airs: our author having, as he ſays, "no intention to confine himſelf to one incurable diſorder. 2dly, The reſervoirs ſhould be large, that the patients may be ſupplied with any quantity that their ſymptoms may require: and, 3dly, It is neceſſary to be able to mix theſe airs with one another, as well as with atmoſpheric air, in any proportion." Theſe objects, we are told, have been completely attained by a conſtruction not very unlike to that employed in the gazometers of M. Lavoiſier, and Dr Van Marum.

PHUL, or PUL, king of Aſſyria, is by ſome

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historians said to be Ninus under another name, and the first founder of that monarchy: A renowned warrior. He invaded Israel in the reign of Menahem, who became tributary to him, and paid him 1000 talents of silver for a peace: A. A. C. 771.

PHUT, or PHUTH, the 3d son of Ham. (Gen. x. 6.) Calmet is of opinion, that Phut peopled either the canton of PHTEMPHU, *Phtemphuti*, or *Phtemphuti*, set down in Pliny and Ptolemy, whose capital was Tharia in Lower Egypt, inclining towards Lybia; or the canton called PHTENOTES, of which Buthus was the capital. The prophets often speak of Phut. In the time of Jeremiah, Phut was under the obedience of Necho king of Egypt. Nahum (iii. 9.) reckons up his people in the number of those who ought to have come to the assistance of No-ammon or Diospolis. See NUMIDIA, § 3.

PHYA. See ATTICA, § 9.

PHYCUS, *(untis.)* a promontory near Cyrene, now called RAS EL SEM. *Lucan.* 9.

(1.) PHYLACE, an ancient town of Thessaly, built by Phylaeus. Protesilaus reigned in it, hence called *Phylacides*. *Lucan.* vi. 252.

(2, 3.) PHYLACE, 1. a town of Arcadia: *Paus.* viii. 54. 2. A town of Epirus, *Liv.* 45, c. 26.

(1.)* PHYLACTERY. *n. s.* [φυλακτηριον; *phylactere*, Fr.] A bandage on which was inscribed some memorable sentence.—The *phylacteries* on their wrists and foreheads were looked on as spells. *Hammond.*—

Golden sayings,
On large *phylacteries* expressive writ,
Were to the foreheads of the Rabbins ty'd.
Prior.

(2.) PHYLACTERY, in general, was a name given by the ancients to all kinds of charms, spells, or characters, which they wore about them, as amulets, to preserve them from dangers or diseases.

(3.) PHYLACTERY also denoted a slip of parchment, wherein was written some text of Holy Scripture, particularly of the decalogue, which the devout people among the Jews wore on the forehead, the breast, or the neck, as a mark of their religion. The primitive Christians also gave the name *phylacteries* to the cases wherein they inclosed the relics of their dead. Phylacteries are often mentioned in the New Testament, and appear to have been very common among the Pharisees in our Lord's time.

PHYLACUS, the son of Deion, K. of Phocis, and founder of PHYLACE in Thessaly. He married Clymene, the daughter of Mynias, by whom he had Iphiclus, the father of PROTESILAUS.

PHYLARCHUS, an ancient Grecian biographer, who flourished A. A. C. 220.

PHYLE, a well fortified village of Attica, near Athens. *Cor. Nep.*

PHYLEUS. See PHILÆUS.

PHYLICA, BASTARD ALATERNUS; a genus of the monogynia order, belonging to the pentandria class of plants; and in the natural method ranking under the 43d order *Dumosæ*. There are 6 species, of which three are kept in the gardens of this country; but, by reason of their being natives of warm climates, they require to be kept in pots, and housed in winter. They are all shrubby plants, rising from three to five feet high, and adorned with beautiful clusters of white flowers. They are propagated by cuttings.

PHYLLACHNE, in botany, a genus of the monandria order, belonging to the monœcia class of plants.

PHYLLALIA; 1. a district of Arcadia: 2. a town of Thessaly.

PHYLLANTHUS, in botany, SEA-SIDE LAUREL; a genus of the triandria order, belonging to the monœcia class of plants; and in the natural method ranking in the 38th order, *Tricoccæ*. There are six species, all natives of warm climates, and rise from 12 to 14 feet to the height of moderate trees. They are tender and cannot be propagated in this country without artificial heat.

PHYLLEIUS, a mountain, and country, of Macedonia. *Apol. Arg.*

(1.) PHYLLIS, in fabulous history, a daughter of Sithon, or, according to others, of Lycurgus king of Thrace, who received Demophoon the son of Theseus; who, at his return from the Trojan war, had stopped on her coasts. She became enamoured of him, and did not find him insensible to her passion. After some months of mutual tenderness and affection, Demophoon set sail for Athens, where his domestic affairs recalled him. He promised faithfully to return within a month; but either his dislike for Phyllis, or the irresistible situation of his affairs, obliged him to violate his engagement: and the queen, grown desperate on account of his absence, hanged herself, or, according to others, threw herself down a precipice into the sea and perished. Her friends raised a tomb over her body, where there grew up certain trees, whose leaves, at a particular season of the year, suddenly became wet, as if shedding tears for the death of Phyllis. According to another tradition mentioned by Servius, Virgil's commentator, Phyllis was changed by the gods into a almond tree, which is called *phylla* by the Greeks. Some days after this metamorphosis, Demophoon revisited Thrace; and when he heard of the fate of Phyllis, he ran and clasped the tree, which though at that time stripped of its leaves, suddenly shot forth, and blossomed, as if still sensible of tenderness and love. The absence of Demophoon from the house of Phyllis has given rise to a beautiful epistle of Ovid, supposed to have been written by the Thracian queen about the 4th month after her lover's departure.

(2.) PHYLLIS, in botany, BASTARD HARE'S EAR, a genus of the digynia order, belonging to the pentandria class of plants; and in the natural method ranking under the 47th order, *Stellatæ*.

(3.) PHYLLIS, in geography, a country of Thrace, near mount Pangæus.

PHYLLOS; 1. a country of Arcadia: 2. a town of Thessaly, where Apollo had a temple.

PHYMOSIS. See MEDICINE, *Index*.

PHYSALIS, the WINTER CHERRY; a genus of the monogynia order, belonging to the pentandria class of plants; and in the natural method ranking under the 28th order, *Luridæ*. There are 10 species; of which the most remarkable is the

PHYSALIS ALKEKENGI, or common winter-cherry. This grows naturally in Spain and Italy. The

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The roots are perennial, and creep in the ground to a great diſtance if they are not confined. Theſe, in the ſpring, ſhoot up many ſtalks, which riſe to the height of a foot or more, garniſhed with leaves of various ſorts; ſome of which are regular and obtuſe, ſome oblong and ſharp pointed, with long foot-ſtalks. The flowers are produced from the wings, ſtanding upon ſlender foot-ſtalks; are of a white colour, and have but one petal. They are ſucceeded by round berries, about the ſize of ſmall cherries, incloſed in an inflated bladder, which turns red in autumn, when the top opens and diſcloſes the red berry, which is ſoft, pulpy, and filled with flat kidney-ſhaped ſeeds. Soon after the fruit is ripe, the ſtalks decay to the root. The plant is eaſily propagated, either by ſeeds or parting the roots.

PHYSALUS. See SCOLOPENDRA.

PHYSCELLA, a town of Macedonia. *Mela.*

PHYSCION, a cape or rock of Bœotia, famous for being the reſidence of the SPHYNX.

PHYSCON, [φυσκων, i. e. *Big-bellied,*] a nickname of a tyrant of Egypt. See EGYPT, § 13, 14.

PHYSCOS, a town of Caria, oppoſite Rhodes. *Strabo* 14.

PHYSCUS, a river of Aſia, running into the Tigris. Xenophon croſſed it with his 10,000 Greeks, in their famous retreat from Cunaxa.

PHYSETER, the SPERMACETI FISH, in zoology, a genus of mammalia, belonging to the order of cete. There are four ſpecies, according to Mr Kerr:

1. PHYSETER CATODON, the round headed cachalot, with a fiſtula in the ſnout, and having no back fin. Of this ſpecies, 102 of different ſizes were caſt aſhore at one time on one of the Orkney Iſles, the largeſt 24 feet in length. The head is round, the opening of the mouth ſmall. Sibbald ſays it has no ſpout-hole, but only noſtrils: but Mr Pennant is of opinion, that the former being placed at the extremity of the noſe, has been miſtaken by him for the latter. Some teeth in this ſpecies are an inch and a quarter long, and the largeſt part of the thickneſs of one's thumb. The top is quite flat, and marked with concentric lines; the bottom is more ſlender than the top, and pierced with a ſmall orifice: inſtead of a back fin, there was a rough ſpace. For the method of extracting the ſpermaceti from the brain of theſe creatures, ſee SPERMACETI.

2. PHYSETER MACROCEPHALUS, the *blunt-headed cachalot*, the *blunt-headed cachalot* of Pennant, the *ſpermaceti whale* of Dudley, has no fin on the back; and the blowing pipe is ſituated on the top of the neck. Of this ſpecies Mr Kerr enumerates 3 varieties: viz.

i. PHYSETER MACR. ALBICANS, the *white blunt-noſed cachalot*, of a white colour with a ſmooth back. This is about 15 or 16 feet long; and reſembles the common whale.

ii. PHYSETER MACR. CINEREUS, the *grey blunt-headed cachalot*; of a blackiſh aſh colour, with a hump on the back. This variety grows to 60 and even 70 feet long, by 30 or 40 in circumference; has a very large head, with very ſmall eyes; the lower jaw is much narrower than the upper, and is furniſhed with a conſiderable number of teeth, which are received into ſockets of the upper jaw when the mouth is ſhut. It has a hump on the back, about a foot above the general ſurface. It is found in Davis's Straits.

iii. PHYSETER MACR. NIGER, is black coloured, and has a hump on the back 12 inches high. This variety is found in the European ſeas; it grows to about 60 feet long and 36 in circumference: the head is exceedingly thick, and the lower jaw, which is ſmaller than the upper, has 46 teeth in 2 rows, which riſe 2½ inches above the gums, and are received into ſockets in the upper jaw. The female teats are retractile. The ſubſtance improperly named SPERMACETI is procured from this ſpecies; and the *ſpermaceti*, or *white oil* is extracted from it. It is found in the S. coaſts of Braſil, Patagonia and the Pacific Ocean. Dr Schwediaur ſays that AMBERGREASE is ejected from this animal. It feeds on the *Sepia Octopodia*.

3. PHYSETER MICROPS, the *black-headed cachalot*, with a long fin on the back, and the upper jaw conſiderably longer than the under one. A fiſh of this kind was caſt aſhore on Cramond iſle, near Edinburgh, December 22, 1769; its length was 54 feet; the greateſt circumference, which was juſt beyond the eyes, 30: the upper jaw was 15 feet; the lower 10. The head was of a moſt enormous ſize, very thick, and above one 3d the ſize of the fiſh: the end of the upper jaw was quite blunt, and near 9 feet high; the ſpout-hole was placed near the end of it. The teeth were placed in the lower jaw, 23 on each ſide, all pointing outwards; in the upper jaw, oppoſite to them, were an equal number of cavities, in which the ends of the teeth lodged when the mouth was cloſed. One of the teeth meaſured 8 inches long, the greateſt circumference the ſame. It was hollow within-ſide for the depth of three inches, and the mouth of the cavity very wide: it was thickeſt at the bottom, and very ſmall at the point, bending very much; but in ſome the flexure is more than in others. Theſe, as well as the teeth of all other whales are very hard, and cut like ivory. The eyes are very ſmall, and remote from the noſe. The pectoral fins were placed near the corners of the mouth, and were only 3 feet long; it had no other fin, only a large protuberance on the middle of the back. The tail was a little forked, and 14 feet from tip to tip. The penis 7½ feet long. Linnæus informs us, that this ſpecies purſues and terrifies the porpoiſes to ſuch a degree as often to drive them on ſhore.

4. PHYSETER TURSIO, the *high-finned cachalot*, has a very long fin on the back and the ends of the teeth are flat. It inhabits the Northern ocean, and grows ſometimes to 100 feet long; the back fin is very long, ſharp-pointed and erect, like a ſhip's maſt, and the blowing pipe is placed flat on the forehead: the teeth are ſlightly bent and have their ends flattened.

PHYSIC, or PHYSICK, *n. ſ.* the art of healing; properly called MEDICINE. The word is formed from the Greek φυσις, *nature*; in regard medicine conſiſts principally in the obſervation of nature. See MEDICINE, PHYSICK, and PHYSICS.

(1.)* PHYSICAL. *adj.* [*phyſique*, Fr. from *phyſick*.] 1. Relating to nature or to natural philoſophy; not moral.—The *phyſical* notion of neceſſity, that without

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without which the work cannot possibly be done. *Hamm.*—I call that *physical* certainty, which doth depend upon the evidence of sense. *Wilkins.*—To reflect on those innumerable secrets of nature and *physical* philosophy, which Homer wrought in his allegories, what a new scene of wonder may this afford us! *Pope.*—Charity in its origin is a *physical* and necessary consequence of the principle of reunion. *Cheyne's Philos. Princ.* 2. Pertaining to the science of healing: as, a *physical* treatise, *physical* herbs. 3. Medicinal; helpful to health.—

Is Brutus sick? and is it *physical*
To walk unbraced? *Shak. Jul. Cæsar.*
The blood I drop is rather *physical*
Than dangerous to me. *Shak. Coriol.*

4. Resembling physick: as, a *physical* taste.

(2.) PHYSICAL, something belonging to, or really existing in, nature. In this sense we say a physical point, in opposition to a mathematical one, which only exists in the imagination; a physical substance or body, in opposition to spirit, or metaphysical substance, &c.

* PHYSICALLY. *adv.* [from *physical.*] 1. According to nature; by natural operation; in the way or sense of natural philosophy; not morally.—Time, measuring out their motion, informs us of the periods and terms of their duration, rather than effecteth or *physically* produceth the same. *Brown's Vulg. Err.*—The outward act of worship may be considered *physically* and abstractly from any law. *Stillingfleet.*—The act of the will commanding, and the act of any other faculty, executing that which is so commanded, be *physically* and in the precise nature of things distinct. *South.*—I am not now treating *physically* of light or colours. *Locke.* 2. According to the science of medicine; according to the rules of medicine.—He that lives *physically*, must live miserably. *Cheyne.*

* PHYSICIAN. *n. s.* [*physicien*, Fr. from *physick.*] One who professes the art of healing.—

Trust not the *physician*,
His antidotes are poison. *Timon of Athens.*

—Some *physicians* are so conformable to the humour of the patient, as they press not the true cure of the disease. *Bacon.*—His gratulatory verse to king Henry is not more witty than the epigram upon the name of Nicolas, an ignorant *physician* who had been the death of thousands. *Peacham.*—

Taught by thy art divine, the sage *physician*
Eludes the urn; and chains or exiles death. *Prior.*

(2.) PHYSICIANS, COLLEGES OF. See COLLEGE, N° 6 and 7.

* PHYSICK. *n. s.* [φυσικὴ, which, originally signifying natural philosophy, has been transferred in many modern languages to medicine.] 1. The science of healing.—Were it my business to understand *physick*, would not the safer way be to consult nature herself in the history of diseases? *Locke.* 2. Medicines; remedies.—In itself we desire health *physick* only for health's sake. *Hooker.*—Use *physick* or ever thou be sick. *Ecclus.* xviii. 19.—Prepare the best *physick* for many melancholy diseases. *Ayliffe.*

He 'scapes the best, who nature to repair
Draws *physick* from the fields. *Dryden.*

—As all seasons are not proper for *physick*, so times are not fit for purging the body politick. *Davenant.* 5. [In common phrase.] A purge. The people use *physick* to purge themselves of sorrows. *Abbot's Description of the World.*

* *To* PHYSICK. *v. a.* [from the noun.] To purge; to treat with physick; to cure.—

The labour we delight in *physicks* pain.

—It is a gallant child; one that indeed *physicks* the subject. *Shak. Wint. Tale.*—

That will *physick* the great myrmidon.

—We love to be instructed, as well as *physicked* with pleasure. *L'Estrange.*

PHYSICO-MATHEMATICS, a science, which includes those branches of physic, which, by observation and experiment to mathematical calculation, undertake to explain the phenomena of nature.

* PHYSICO-THEOLOGY. *n. s.* [from *physick* and *theology.*] Divinity enforced or illustrated by natural philosophy.

PHYSICS.

DEFINITIONS *and* OBJECTS OF PHYSICS.

PHYSICS, [Gr. φυσικὰ, from φύσις, NATURE,] in its most enlarged sense, comprehends the investigation of every object in nature; and NATURAL PHILOSOPHY is a term of the same extent: but ordinary language, particularly among British naturalists, employs both these terms in a much narrower sense, which it is proper here to define. Under the article PHILOSOPHY, we gave an account of that view of nature in which the objects of our attention are considered as connected by causation; and endeavoured to point out the manner in which this study may be most advantageously cultivated. The objects of the contemplation both of the philosopher and the naturalist (if these characters can be supposed distinct) are the whole UNIVERSE, which consists, not of a number of independent existences detached from each other, but of a number of substances connected by various relations and dependencies, so as to form a WHOLE, which is generally styled the SYSTEM OF NATURE.

This consideration of the individual objects which compose the universe in *one system* is the fruitful of sober contemplation. The natural historian attempts in vain to describe objects, by merely informing us of their shape, colour, and other visible qualities. In describing a piece of metal, for instance, he tells us, that it takes a fine polish; that it strikes fire with steel: that it burns in quicklime; that it dissolves in aquafortis, and is precipitated by alkalis; &c. and thus it appears that even the *description* of any thing, with a view of ascertaining its specific nature, and for the sole purpose of discrimination, cannot be accomplished without taking notice of its various relations to *other* things. But after all this description we are still ignorant of its *nature*; of its *essence*, or what makes it that thing and no other thing. We must content ourselves with the discovery of its *qualities* or *properties*; and it is [illegible]

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assemblage of these which we call its *nature*. But this is inaccurate. These do not constitute its essence, but are the consequences of it. Yet this is all we can know of its nature. The term *property* is nothing but a name expressing some relation which the substance under consideration has to other things. This is true of all such terms. *Gravity*, *elasticity*, *sensibility*, *gratitude*, and the like, express nothing but certain *matters of fact*, which may be observed respecting the object of our contemplation in different circumstances of situation with regard to other things. Our notions of individuals, therefore, as distinct from each other imply their relations to other things.

Sect. I. *Of the* GENERAL CONNECTION *of* ALL PARTS *of the* UNIVERSE.

THE most superficial view of the universe shows an evident connection between all its parts. All things on this globe are connected with each other by the laws of motion and of mind. Our globe is connected with the whole of the solar system by gravitation. If we extend our observations to the fixed stars, the connection by no means fails. Their inconceivable distance, indeed, renders it impossible for us to acquire any *distinct* knowledge of their nature. But they are evidently connected with the solar system by the quality of the light which they emit with that excited by our sun or any shining body. It moves with the same velocity, it consists (in most of them) of the same colours, and it is reflected, refracted, and inflected, according to the same optical laws. In this great and unbounded scene of contemplation, our attention is naturally directed to the different classes of objects in proportion to the interest we take in them. There is nothing in which we are so much interested as our fellow men; and therefore we study their *distinctive* nature by attending to their *characteristic* appearances. We observe them continually producing, like ourselves, certain changes in the situation or condition of surrounding objects; and these changes are evidently directed to certain ends *which regard themselves*. Observing this subserviency of the effects which they produce to their own accommodation, we consider this adjustment of means to ends as the effect of an INTENTION, as we experience it to be in our own case, where we are conscious of this intention, and of these its effects. We therefore interpret those actions of other men, where we observe this adjustment of means to ends, as marks or signs of intention in them similar to our own. And thus a quality, power, or faculty, is *supposed* to exist in them from *its sign*, although the quality itself is not *immediately* cognisable by our senses.

As this intention in ourselves is accompanied by perception of external objects, knowledge of their properties, desire of good, aversion from evil, volition, and exertion, without all which we neither could nor would perform the actions which we daily perform, we *suppose* the same perception, knowledge, desire, aversion, volition, and exertion in them. Thus, by the constitution, of our minds, we consider the employment of *means*, by which ends terminating in the agent are gained, as the natural signs of design or intention. ART, therefore, or the employment of means, is the natural sign of intention; and wherever we observe this adjustment of means to ends, we infer the agency of design.

A very superficial acquaintance with the objects around us, leads us to extend this inference to a great number of beings besides our fellow men, namely, to the whole animal creation: for in all we observe the same subserviency to the ends of the agent, in the changes which we find them continually producing in the objects around them. These changes are all adjusted to their own well being. In all such cases, therefore, we are forced, by the constitution of our minds, to infer the existence of design or intention in these beings also. But in numberless changes produced by external objects on each other, we observe no such fitness in the effects, no such subserviency to the well-being of the agent. In such cases, therefore, we make no such inference of thought or design.

SECT. II. *Of the* GENERAL DIVISION *of* EXTERNAL OBJECTS.

THE general view of things, above taken notice of, leads us to make an important distinction, by which we arrange all external objects into two classes. The first resembles ourselves, in giving external marks of that *thought* or *intention* of which we are conscious; and we *suppose* in them the other properties which we discover in ourselves, viz. thought, perception, memory, foresight, and all that collection of faculties which we feel in ourselves, and which constitute the animal. The other class of objects exhibit no such appearances, and we make no such inference. Thus we divide the whole objects of external nature into the classes of THINKING and UNTHINKING beings.

Our first judgments about these classes however must be very inaccurate. But when an animal dies we observe that it no longer gives the former marks of thought and intention, and that it now resembles the class of unthinking beings, altho' it still retains all that fitness of organical structure which it had before. This leads us to conclude, that the distinction does not arise from a difference in organical structure, but from a distinct substance common to all thinking beings, but separable from their organical frame. To this substance we ascribe thought, intention, contrivance, and all that collection of faculties which we feel in ourselves. To this substance in ourselves we refer all sensations, pleasures, pains, remembrances, desires, purposes; and to this aggregate, however imperfectly understood, we give the name of MIND. Our organical frame, which seems to be only the instrument of information and operation to the mind, we call *our* body.

But, as the animating principle is not, like our body, the immediate object of the senses, we naturally conceive it to be a substance essentially different from those which are the objects of our senses. The most savage nations have shown a disposition to form this conclusion. Observing that animal life was connected with breathing, it was natural to imagine that breathing was living, and that breath was life. It is a remarkable fact, that in most languages the term for *breath* is one of the terms for the soul; רוח, πνευμα, *spiritus*, in the

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the Hebrew, Greek, and Latin, expreſs both; *gheiſt* or *ghoſt*, in the Teutonic, comes from *gheiſen*, *to breathe* or *figh*; *dūcha* or *dūba*, the ſoul, in Sclavonic, comes from *duichat*, *to breathe*; and ſo in many other languages.

Very little refinement, however, is neceſſary to convince us, that air or breath cannot be the ſubſtance which thinks, wiſhes and deſigns; and that the properties of this ſubſtance, whatever it is, muſt be totally different from, and incompatible with, any thing that we know of the immediate objects of our ſenſes. Hence we are led to conclude that there are two kinds of ſubſtances in nature: One, which is the principle of ſenſation; and therefore *cannot* be the object of our ſenſes, more than light can be the object of the microſcope. This ſubſtance alone can feel, think, deſire, and propoſe, and is the object of *reflection alone*. The objects of our ſenſes compoſe the other claſs, and therefore can have none of the other properties which are not cognoſcible by the ſenſes. Theſe have all the properties which our ſenſes can diſcover: and we can have no evidence of their having any other, nor indeed any conception of their having them. This claſs is not confined to the unorganized maſſes of matter; for we ſee that the bodies of animals loſe after death that organical form, and are aſſimilated to all the reſt of unthinking beings.

From ſuch views as theſe, while all nations have agreed to call this claſs of objects by the name BODY, which originally expreſſes our organical frame, ſome nations, farther advanced in cultivation or refinement, have contrived an abſtract term to expreſs this general ſubſtance of which all inanimate beings are compoſed. Such terms we have in the words *materies*, ὑλη, *matter*, &c.

Sect. III. *Of the* DISTINCTION *between* MATERIAL *and* IMMATERIAL SUBSTANCES.

MATTER is that ſubſtance which is immediately and obviouſly cognoſcible by our ſenſes. Whatever is not thus cognoſcible by our ſenſes is *immaterial*; hence *mind* is ſaid to be immaterial. It is of importance to keep in mind this diſtinction, which is more than merely *grammatical*. Little more is neceſſary for detecting the ſophiſm of Helvetius, Mirabeau, and other ſages of the Gallic ſchool, who have endeavoured to remove the ties of moral and religious obligation, by lowering our conceptions of our intellectual nature. It alſo ſhows how haſtily *they* have formed their opinions, who have aſcribed to the immediate agency of mind, all thoſe relations which are obſerved in the actions of bodies on each other at a diſtance. The characteriſtic phenomenon, or *diſtinguiſhing* quality of *mind* is INTENTION. The *phenomenon* by which this quality is ſuggeſted to us is *art*, or the employment of *means* to gain *ends*; and the mark of art is the ſuppoſed conduciveneſs of theſe ends to the well-being of the agent. Where this train is not evident, deſign or intention is never thought of. We have, and can have, no notion of mind different from thoſe of our own minds; and we diſcover the exiſtence of other minds as we diſcover the exiſtence of bodies, by means of phenomena which are characteriſtics of minds, and which reſemble thoſe phenomena that follow the exertion of our own mental faculties, by the employment of means to attain ſelfiſh ends; and where ſuch appearances are not obſerved, no exiſtence of a mind is inferred. When we ſee a man fall from the top of a houſe, and daſh out his brains on the pavement, we never aſcribe this motion to his mind. Although the fitneſs of many of the celeſtial motions for moſt important purpoſes makes us ſuppoſe deſign and contrivance ſomewhere, and therefore a SUPREME MIND, we no more think of inferring a mind in the caſe from the fitneſs of its motions for purpoſes moſt beneficial to its inhabitants, than of inferring a mind in a bit of bread from its fitneſs for nourishing our bodies.

The term MIND therefore, in the *ordinary language* of all men, is applied to what *deſires, wills*, at the ſame time that it *perceives* and *underſtands*. If we call that mind which *produces motion*, we muſt derive our notions of its qualities or attributes from obſerving their effects. We muſt therefore diſcover the general laws by which they act, that is, the general laws obſerved in the motions which we conſider as their effects. Now theſe are the general laws of motion; and in none of theſe can we find the leaſt coincidence with what we are accuſtomed to call *the laws of mind*. Nay, it has been the total want of ſimilitude which has given riſe to the diſtinction which all men, in all ages and countries, have made between mind and matter. This diſtinction is found in all languages; and it is an unpardonable fault which men take with languages when they want a *term of diſtinction*, a *ſpecific term*, to expreſs the ideas of a different ſpecies. What ſome modern authors have been pleaſed to call *mind*, the whole world beſides have called by another name, ſoul, which though borrowed from our own experience is yet ſufficiently diſtinctive, and never leads us to confound things that are different, except in the language of ſome modern philoſophers, who apply it to the laws of agency of mind; and, ſpeaking of the force of motives, &c. commit the ſame miſtakes which the followers of Ariſtotle commit in the uſe of the term *mind*. *Force*, in the language of theſe philoſophers, means what connects the operations of mind; as mind, in the language of Lord Monboddo, is that which connects the operations of body."

The doctrine of *elemental minds*, therefore, to explain the immediate cauſes of the phenomena of the material world is an abuſe of language. It is jargon and a frivolous abuſe, for it offers no explanation whatever.

"Of all miſtakes that the naturaliſt can fall into, there is none more fatal to his progreſs in knowledge than the confounding things which are eſſentially different; and of all the diſtinctions which can be made among the objects of our contemplation, there is none of equal philoſophical importance with this between *mind* and *matter*: and when we conſider the conſequences which naturally follow from this confuſion of ideas, and particularly thoſe which follow from ſinking the mental faculties of man to a level with the operations of mechanics or chemiſtry, conſequences which the experience of the preſent eventful day ſhows to be deſtructive of all that is noble or deſirable in

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man nature, and of all that is comfortable in
is life, and which blasts every hope of future
celence—we cannot be too anxious to have
is capital distinction put in the plainest point of
w. When we see the frenzy which the rea-
ning pride of man has raised in our neighbour-
d, and hear the dictates of philosophy incess-
tly appealed to in defence of whatever our
rts shudder at as shocking and abominable;
when we see a man (M. DE LA METHERIE,
rn. de Phys. 1792-3.) of great reputation as a
ralist, and of professed humanity and political
beration, congratulating his countrymen on the
improvement and almost perfection of phi-
phy; and after giving a short sketch of the
itution of the visible universe, summing up
ith a table of elective attractions, and that
gular combination and mode of crystallization
ch constitutes GOD (horresco referens!)—is it
ll time for us to stop short, and to ask our
hearts "whither are you wandering?"—But
philosophy, reasoning from effects to their
s, will here listen to the words of our sacred
ks: "By their fruits ye shall know them."
bsurd consequences of the sceptical philoso-
of Berkley and Hume have been thought, by
undoubted discernment, sufficient reasons
jecting it without examination. The no
ord and the shocking consequences of the
ical philosophy now in vogue should give
me abhorrence; and should make us a-
its blood-stained road, and return to the
l paths of nature, to survey the works of
feast our eyes with the displays of mind,
er themselves on every hand in designs
ost extensive influence and the most beau-
trivance." *Enc. Brit.*

P. IV. *Of the* EXTENT *of* PHILOSOPHICAL STUDY.

are the objects of this Science, the subjects
ophical study. The extent of the science
unbounded, reaching from an atom to
self. It is necessary for the successful
n of this immense field of knowledge,
committed to different cultivators, and
various portions be treated in different
Accordingly, the various tastes of men
en this curiosity different directions; and
y, like all other tasks, has been promoted
division of labour.

e ingenious naturalists have attended only
ppearances of fitness, which are exhibited
quarter of the universe; and by arrang-
into different classes, and interpreting
indications of thought and intention,
ired the knowledge of many classes of
ed intelligent beings, actuated by pro-
and directed by degrees of reason.
e contemplation of these appearances in-
thought and design in any individual of
ese classes, and brings its propensities and
of action, and the ends gained by these
into view, the contemplation of these
ies, purposes, and ends, occasions an in-
ot a much more general kind.

these sentient beings give indications of

knowledge and of power; but their knowledge bears no proportion to their powers of action, and of attaining important ends; and their power is neither always, nor often the consequence of their knowledge. Where the effects of their actions are most eminently conducive to their interests, the power of attaining these ends is generally independent on any attention to the fitness of the means, and the exertion is often made without their even knowing of the end. The well-being of the individual is secured against danger by an extinctive propensity, which leads it to the performance of the necessary action, which is thus made immediately and ultimately desirable, without regard to its ultimate and important end. Thus, in our own nature, the support of animal life, and the improvement of the means of subsistence by a knowledge of the objects which surround us, are not intrusted to our apprehensions of the importance of these ends, but are committed to the surer guides of hunger and curiosity.

There is also a connection between the individuals of a class, different from that which arises from the mere resemblance of their external appearance, or even of their propensities and pursuits. These propensities are such, that while each individual seeks only its own enjoyment, these enjoyments are in general such as contribute to the support of the species and the enjoyment of other individuals. Thus, in the classes of animals, and in human nature, the continuance of the race, and the enjoyment of the whole, are not intrusted to the apprehension we entertain of the importance of these ends, but are produced by the operation of sexual love and the love of society.

Even the *different* classes of sentient beings are connected together; and while the whole of each class aim only at their own enjoyment, they contribute also to the well-being of the other classes. Even man, the selfish lord of this sublunary world, is not the unconnected inhabitant of it. He cannot reap all the fruits of his situation, without contributing to the enjoyment of thousands of the brute creation. Nay, it has even been proved, that while one race of animals, in consequence of its peculiar propensities, subsists by the destruction of another, the sum total of animal life and enjoyment is prodigiously *increased*. See a very judicious dissertation on this curious and puzzling subject, entitled *A Philosophical Survey of the Animal Creation;* where it appears that the increase of animal life and enjoyment which is produced by these means, beyond what could possibly obtain without it, is beyond all conception. See likewise the last edition of *King's Origin of Evil*, by Dr Law, late bishop of Carlisle.

In short the whole animal creation seems connected, and jointly employed in increasing the sum total of possible happiness. This fitness of the various propensities of sentient and intelligent beings, this subserviency to a general purpose, appear evident marks of intention, distinct from, and independent of, all the particular intentions, and superior to them all; and thus irresistibly lead to infer the existence of A SUPREME MIND, directing the whole of this INTELLECTUAL SYSTEM, while the individuals of which it consists appear the unconscious

conscious instruments in the hand of a great Artist, with which he executes his grand and beneficent purposes.

But the bodies of the inanimate creation are not only connected with each other by a mutual dependence of properties, and the relation of causation, but they are also connected with the sentient beings by a subserviency to their purposes of enjoyment. The philosopher observes that this connection is admirably kept up by the constancy of natural operations and the expectations of intelligent beings. This adjustment, this fitness, of which the effect is the enjoyment of the sentient inhabitants of the universe, appear to be the effect of an intention of which this enjoyment is the final cause. This constancy therefore in the operations of nature, both in the intellectual and material world, and the concomitant expectation of sentient beings, appear the effects of *laws* imposed on the different parts of the universe by the Supreme Mind, who has formed both these classes of beings so admirably suited to each other.

Sect. V. *Of the* Origin of Natural Theology.

To those who take such a comprehensive view of the present state of things, the world appears a work of art, a system of means employed for gaining certain proposed ends, and it carries the thoughts forward to an artist; and we infer a degree of skill, power, and good intention in this Artist, proportioned to the ingenuity, extent, and happy effect which *we are able to discern* in his works. Such a contemplation of nature, therefore, terminates in Natural Theology, or the discovery of the existence and attributes of God.

Our ideas of this Supreme Mind arise from the indications of design which we observe. These will differ from our notions of other minds only in the *degrees* which we *are able* to observe, and which we allign to these faculties; for the phenomenon or the effect is not only the mark, but also the measure of its supposed cause. These degrees must be in proportion to our capacity of appreciating the extent, multiplicity, and variety of the contrivance. In proportion as our acquaintance with the operations of nature around us is extended, we perceive higher degrees of power, skill, and intention: and as the scene of observation is unbounded, we cannot affix any boundaries to these attributes, and we conclude that they are infinite or unbounded *in their own nature*. When our attentive survey of *this* universe, and a careful comparison of all its parts, have made us conclude that it is *one* design, the work of *one Artist*; we must infer, that, His power, wisdom, and benevolence, are indeed infinite.

When mankind had been led to draw this conclusion from the appearances of fitness observed every where around them, they considered that constancy which they observe in natural operations, whether in the material or the intellectual system, and that expectation of, and confidence in, this constancy, which renders the universe a source of enjoyment to its sentient inhabitants, as the consequences of laws imposed by the Almighty Artist on his works.

This view of nature is extremely captivating, and has engaged the curiosity of speculative men respecting the phenomena of mind in all ages. Hence the general laws of moral sentiment came to be considered with attention. This gradually ripened into a regular system of moral duty, accompanied by its congenial study, the investigation of the *summum bonum*, or the chief constituent of human felicity; and these two branches of intellectual science were always kept in a state of affinity by the philosophers of antiquity. But jurisprudence, the science of government, legislation, police, were certainly previously cultivated as in subserviency to the demands of cultivated society; and all these so nearly related parts of the study of human nature had made a very considerable progress, in the form of precepts, for directing conduct, before speculative men treated them as subjects of philosophical study. Our moral sentiments, always involving a feeling of obligation, are expressed in a language considerably different from the usual language of pure philosophy, consisting of things which *ought to be* rather than of things which *are*; and this distinction of language is increased by the very aim of the writers, to influence the *conduct* as well as the *opinions* of their scholars. It was reserved for modern times to bring this study into the pure form of philosophy by a careful attention to the phenomena of sentiment, classing these according to their generality, and ascertaining their respective rules by an appeal to the general conduct of mankind, and thus in the modern treatises on ethics, jurisprudence, &c. there is less frequent reference made to the *officia* or duties, or to the conduct of the *summum bonum*, than among the ancients.

Sect. VI. *Of the* Origin *of the* Intellectual Sciences.

It was impossible to proceed far in these inquisitions without attending to the powers of understanding. Differences of opinion were supported by reasonings, or attempts to reason. Both sides could not be in the right. Right argumentation behoved to be acquiesced in by all parties; and it could hardly escape the notice of inquisitive minds, that there were rules of *truth* and *falsehood* as well as of *right* and *wrong*. Hence the human *understanding* became an object of study, first in subserviency to the demands of moralists, but afterwards for its own sake, and gradually grew up into the science of logic. Farther refinement produced the science of metaphysics. But all these were posterior to the doctrines of morals; and disquisitions on beauty, the principles of taste, the precepts of rhetoric and criticism, were the last additions to the science of the phenomena of mind. And now, since philosophers have agreed in the mode of investigation of general laws by experiment and observation, and that this is all the knowledge we can have of any subject whatever, it is to be hoped that this branch of philosophical discussion will receive the same degree of improvement (by the application of facts and experience) that has been attained by other sciences.

The necessary occupations, however, of ordinary life have often directed the efforts of

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genius towards material objects, and engaged attention on their properties and relations; as all sciences have arisen from arts, and were finally implied in them till separated from them speculatists, the knowledge of the material system of nature was possessed in detached scraps by practitioners in the various arts of life, long re the *natural philosopher* thought of collecting into a body of science. But there have been ages men of curiosity, who have been struck the uniformity of the operations of nature in material world, and were eager to discover causes. Accordingly, while the moralists and physicians spent their time in investigating phenomena of mind, and have produced the ces of PNEUMATOLOGY, LOGIC, ETHICS, SPRUDENCE, and natural THEOLOGY, these vers of nature found sufficient employment sidering the phenomena of the material

e bodies of which it consists are evidently cted by those properties by which we ob- that they produce changes in each other's si- on. This assemblage of objects is therefore called the MATERIAL SYSTEM. It is fre- ly termed NATURE; and the terms NATURAL ARANCES, NATURAL CAUSES, NATURAL , have been generally restricted to those take place in the material system. This re- on, however, is improper, because there is ference in the manner in which we form our s of those laws, and reason from them, both respect to mind and body. If there is to be striction, and if any part of the study of the se is to be excluded in the application of terms, it is that part only which considers obligation, and rather treats of what *ought* han of what *is*. But there is a considerable nce in the language which must be employ- ough there is none in the principles of in- tion. We have no proof for the extent of oral law but an appeal to the feelings of of men, indicated by the general laws or which are observed in their actions. Some s use the term *natural law* to express *every* dence of fact; and this is certainly the pro- e of the term. The French writers general- the term *loi physique* in this enlarged sense. any authors, misled by, or taking advantage ambiguity of language, after having esta- a law founded on a copious and perhaps cepted induction of the phenomena of the terial system, (in which case it must be consider- in its restricted sense,) have, in their explana- s of phenomena, extended their principle much ther than the induction on which they had ded the existence of the physical law. They e extended it to the phenomena of mind, and e led their followers into great and dangerous takes. In nothing does the imperfection of guage appear so remarkably as in distinctions cerning MIND. Being a late subject of discus- , and interesting only to a few speculatists, we e no appropriated vocabulary for it; and all disquisitions concerning its operations are in ntinual metaphor or figure, depending on very ht analogies or resemblances to the phenomena the material world. This makes the utmost caution necessary; and it justifies the British philosophers who have successfully studied the intellectual system, in having, almost without exception, restricted the terms *natural laws*, *natural causes*, *natural philosophy*, and such like, to the material system. With us pneumatology makes no part of physics. And the sciences have fared better by the restriction of the terms. In no country has the spirit of liberal discussion been more encouraged and indulged than in Britain; and her philosophers have been equally eminent in both branches of science. Their performances in ethics, jurisprudence, and natural theology, are considered by all Europe as fountains of knowledge on these subjects; and LOCKE and CLARKE are names no less familiar on the continent than NEWTON. The licentious and degrading doctrines of the French school have as yet made little impression in Britain; and man is still considered among us as a glorious creature, born to, and fitted for, the noblest prospects.

PHYSICS, then, is with us the study of the material system, including both natural history and philosophy. The term is not indeed very familiar in our language; and in place of *physicus* and *disciplina physica*, we more generally use the terms *naturalist* and *natural knowledge*. The term *natural philosophy*, in its common acceptation, is of less extent. The field of physical investigation is still of prodigious extent; and its different departments require very different treatments, and have engaged in their cultivation persons of very different talents.

All the various phenomena of the material system may be arranged into two classes, distinguished both by their objects and by the manner of treating them. The 1st class comprehends all the appearances which are exhibited in the *sensible motions* of bodies, and their actions on each other producing *sensible motion*. The 2d class comprehends the appearances which are exhibited in the *insensible* motions and actions of the invisible particles of matter.

We have examples of the phenomena of the first class in the planetary motions, the motions of heavy bodies, the phenomena of impulse, the motions and actions of machines, the pressure and motions of fluids, the sensible actions of magnetical and electrical bodies, and the motions of light. We have examples of the 2d class in the phenomena of heat and mixture, and those exhibited in the growth of animals and vegetables, and many phenomena of solid, fluid, magnetical, electrical, and luminous bodies, in which no change of place can be observed. Thus there is a distinction in the phenomena sufficiently great to warrant a division of the study, and to make us expect a more rapid improvement by this division.

SECT. VII. *Of the* ORIGIN *of the* USEFUL ARTS.

IT is probable, that before man had recourse to agriculture as the most certain means of procuring subsistence, his acquaintance with external substances was principally that of the natural historian; consisting of a knowledge of their fitness for food, medicine, or accommodation, their places of growth or habitation, and the means of procuring them, depending on their manner of life

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or existence. It required a studied attention to these circumstances to give rise to agriculture, which therefore generally made its appearance after men had been in the practice of keeping flocks; by which means they were more at their ease, and had some leisure to attend to the objects around them, and in particular to those circumstances of soil and weather which affected the growth of their pasture.

When husbandry and simple medicines were thus established, they were probably the first *arts* which led men to attend to the operations of nature; and with these arts the *general study of nature*, was thus divided into two different branches. The rude physician would be at first a collector of *specifics*; but by degrees he would observe resemblances among the *operations* of his drugs, and would class them according to these resemblances. His frequent recourse to the vegetable kingdom for medicines would cause him to attend more minutely to the plants which he had occasion to study than the husbandman to the multitude he is obliged to rear. The physician then would learn to think, the husbandman to work. An analogy between the economy of animal and vegetable life could hardly fail to engage the attention of the physician, and would make him a botanist.

From the same source, another science must have arisen, by contemplating the appearances of animal and vegetable life, founded on a careful observation and accurate description of the wonderful machine. The phenomena of anatomy would be gradually discriminated and arranged; and the action of medicines, and the practice of physic and surgery, established in the form of a liberal or scientific art.

The husbandman in the mean time must have laboured the ground. He, too, was interested in the knowledge of the vegetable kingdom, and formed some rude system on the subject by which he regulated his labours: but he saw, that whatever was the nature of vegetable life, he must work hard; and he would search about for every thing which could diminish his labour. The properties of the lever, the wedge, and the inclined plane, would become familiar to him; and without knowing on what their efficacy depended, he used them with confident sagacity and effect. The strength of timber, the pressure and force of water, were daily seen and used by him and other artisans for their mutual accommodation; and some rude principles on these subjects were committed to memory. Many tools and simple machines become familiar; and thus the *general* properties of matter, and the general laws of the actions of bodies on each other, become gradually objects of observation and improvement. The general aim is to produce a greater quantity of work by the same exertion. When a man finds, that by increasing the length of his lever he increases his power of overcoming resistance, curiosity and interest lead him to inquire in what proportion his advantage increases. When he finds that a double length gives him a double energy, he will be surprised and mortified to find, that at the end of the day he has not performed twice the quantity of work: but, after much experience, he will learn, that every increase of energy, by a machine, is nearly compensated by an increase of time in the performance of his task; and thus one of the leading principles of practical mechanics was inculcated in a manner not to be forgotten, and the practical mechanic was brought to speculate about motion and force, and by gradual and easy steps the general laws of simple motions were established.

Sect. VIII. *Of the* ORIGIN *of the* MATHEMATICS.

It is clear that such speculations could not be carried on, nor any considerable knowledge acquired, without some acquaintance with the art of measurement; and the very questions which the mechanic wished to solve, would lead to advances in this art, which in process of time refined itself into mathematics, the most perfect or all the sciences. All the phenomena of sensible motion afford employment to the mathematician. If performed in a double or triple time, through a double or triple space, by a double or triple body, by the exertion of a double or triple force, produces a double or triple effect, is more to the right or to the left, upwards or downwards, &c. In short, every affection of motion is an object of mathematical discussion. Such a [science] must have appeared early in the form of an art, as a consequence of the mutual transactions of men. These among an uncultivated people are chiefly in the way of barter. Numbers, weights and measures would of consequence soon be studied, and some of the properties of plane and solid numbers and figures would become known, and the operations of multiplication and division, where arithmetic is combined with geometry. To most men the performance of a machine is a more attractive object than the properties of a figure, and the properties of a figure more entertaining than that of a number; but the fact seems to have been otherwise among the ancients. Before Pythagoras had established the theorem that bears his name, (see PYTHAGORAS.) and which is among the first elements of geometry, he had reformed the Grecian numbers by the addition of a note to their scale, which proceeds on a very refined speculation on the properties of numbers; so that among the Greeks arithmetic must have made considerable progress, while geometry was yet in its cradle: and we know with what astonishing length they prosecuted the science of pure geometry, while their knowledge of mechanical principles was almost nothing. There is such a distance, in point of simplicity, between pure mathematics and the most elementary mechanics, that the former continued to make rapid [progress] to improvement in more modern times, while the latter hardly deserved the name of science till very lately, when the great demand for it, by the increase of manufactures, both interested many in the study, and facilitated its progress, by the multitude of new machines invented by manufacturers and artisans: and even at present, to them we are indebted for almost every new invention in mechanics, and the speculatist seldom has done more than improve the invention, by exhibiting its principles, and thus enabling the artist to correct its imperfections; and now science and art go hand in hand, mutually giving and receiving assistance. The demands of the navigator for mathematical

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and aftronomical knowledge have dignified theſe ciences; and they are no longer the means of ele- ant amuſement alone, but merit the munificence f princes, who have erected obſervatories, and nanified voyages of diſcovery, where the mathe- matical ſciences are at the ſame time cheriſhed and pplied to the moſt important purpoſes.

SECT. IX. *Of the* UNDISCOVERABLE PHENOMENA *of* PHYSICS.

In various branches of Phyſics, particularly in the operations of chemiſtry, for inſtance, the *im-* mediate exertion of the cauſe is not perceived; all we obſerve is the aſſemblage of particles which exiſted before mixture, and that which takes place when it is completed, and which we conſider as the reſult. The procedure of nature in producing the change is unſeen and unknown. The ſteps are hidden from our obſervation. We are not only igno- rant of the cauſe which determines one particle of the food to become a part of our body while o- thers are rejected, but we do not ſee the operation. We are not only ignorant of the cauſe which de- termines a particle of the ſulphuric acid to quit the foſſil alkali with which it is united in Glauber ſalt, and to attach itſelf to a particle of magneſia already united with the muriatic acid, which alſo has a tendency to unite with the alkali, but we do not ſee the operation. The particles and their motions are not the objects of our ſenſes; and all that we ſee, when the Epſom ſalt and common ſalt ſeparated by the water in which we had formerly diſſolved the mirabile and the muriated magneſia. The effects, which are the *immediate* effects of the ſame cauſes, and therefore their *only indica- tions characteriſtics, and meaſures*, fitted to ſhow their nature, are hid from our view.

Our knowledge therefore of theſe phenomena is more imperfect than that of other phenomena; and we are frequent *ourſelves* with the diſcovery of more diſtant relations and more remote cauſes, and with the ignorance of the very powers of nature by which theſe changes are brought about, and which are impoſſible only by their immediate effects, or the motions which they produce unſeen. The knowledge which we do really acquire is ſome- what ſimilar to what the mechanical philoſopher has acquired when he has diſcovered, by many experiments and inveſtigations, that magnets at- tract each other by their diſſimilar poles, and repel each other by their ſimilar poles, and do not act upon any bodies but loadſtones and iron. Here we have undiſcovered all that is moſt curious in the phenomenon, *viz.* how theſe attractions and repulſions are produced; and even here the mag- netical philoſopher has the advantage of ſeeing the inſtrument and the operation.

Philoſophers attending to this circumſtance, that even in *theſe* caſes the changes are produced by *actions*, or conſiſt in *motions*, however unper- ceived, theſe may be, have concluded, that the laws according to which nature operates in pro- ducing theſe changes are ſimilar to the laws which regulate her operations in the ſenſible actions of bodies, or are included in them; and that the powers, though unſeen, and the moving forces, are perfectly ſimilar. They have therefore em- ployed ſimilar modes of inveſtigation, applying the laws of *impulſe*, and calling in the aid of ma- thematical knowledge. Of this we have many examples in the writings of Dr Freind, Keil, Ber- noulli, Helſham, Boerhaave, Hartley, and others, who have delivered theories of fermentation, ſo- lution, precipitation, cryſtallization, nutrition, ſe- cretion, muſcular action, nay even of ſenſation and intelligence, founded, as they think, on the laws of motion, and illuſtrated and ſupported by mathematical reaſoning. Lord Verulam himſelf, that careful and ſagacious diſtinguiſher of intel- lectual operations, has gone into the ſame track in his explanation of the phenomena of fire and combuſtion: and even Sir Iſaac Newton has made ſeveral attempts of the ſame kind, though with peculiarities which always characteriſe his diſ- cuſſions.

But the ſucceſs of theſe philoſophers has been ſuch as they had reaſon to expect; for their whole trains of reaſoning have proceeded on analogies which were aſſumed or *ſuppoſed* without autho- rity. Theſe ill-founded analogies have been mix- ed with hypotheſes completely gratuitous. Cer- tain forms have been aſſigned to the particles, and certain modes of action have been laid down for them, for whoſe reality we have not the leaſt indication: and theſe fancied forms and laws of action have been ſuch as are either ſelf-contra- dictory and inconſiſtent, or ſuch as would pro- duce effects totally different from thoſe which are obſerved. Theſe *atomical theories*, as they are called, tranſgreſs every rule of philoſophical diſ- cuſſion, and even the beſt of them are little better than trifling. See OPTICS, § 153—156.

This kind of inquiry has of late, however, be- come more rational; and along with the improve- ment and extenſion of mathematical philoſophy, philoſophers have given over their inceſſant at- tempts to explain every thing by *impulſe*. We need not deſpair therefore of making ſtill farther advances, if we will content ourſelves with going no farther than Newton has done in his explana- tion of the planetary motions. He has immor- talized his own name, and has added immenſely to our ſtock of uſeful knowledge: yet he has ſtop- ped ſhort at the diſcovery of the fact of univerſal gravitation; and all who have endeavoured to ex- plain or account for this fact have only expoſed themſelves to pity. The road to farther diſcove- ries has been alſo hinted by Sir Iſaac Newton, who has expreſſed his ſuſpicion, that as the great movements of the ſolar ſyſtem are regulated by univerſal gravitation, ſo the mutual actions of the particles of matter are produced and regulated by tendencies of a ſimilar kind, *equally* but not *more* inexplicable, and of which the laws of ac- tion are to be diſcovered by as careful an atten- tion to the phenomena, and by the ſame patient thinking, which he has employed on the plane- tary motions. And a beautiful introduction to this new and almoſt unbounded field of enquiry has been given us by the celebrated Abbe BOSCO- VICH, in his Theory of Natural Philoſophy, where he has ſhown how ſuch mutual tendencies, ſimi- lar in every ultimate particle of matter, and mo- dified by conditions that are highly probable, nay

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almoſt demonſtrable, will not only produce the ſenſible forms of ſolidity, hardneſs, elaſticity, ductility, fluidity, and vapour, under an inconceivable variety of ſubordinate appearances, and the obſerved laws of ſenſible motion, but will go far to explain the phenomena of fuſion, congelation, ſolution, cryſtallization, &c. &c. &c. both in chemiſtry and phyſiology. We recommend this work to the peruſal of all who wiſh to have a clear idea of the internal conſtitution of natural bodies, and of the manner in which the uniting forces produce their ſenſible effects. Any perſon, poſſeſſed of a ſmall ſhare of mathematical knowledge, will be ſatisfied that the proceſs of nature is not very different from what he deſcribes.

But nature opens an immenſe and inſtructive volume; and poſterity will long find employment in the peruſal, even though advancing with the eagerneſs and ſucceſs of the laſt century. We have not yet arrived at the threſhold in many reſearches. In many parts of chemiſtry, for inſtance, we are as yet uncertain with reſpect to the phenomena themſelves, which are the ſubjects of diſcuſſion. The compoſition of bodies muſt be fully underſtood before we explain the forces which unite their particles, or their modes of action. As long as WATER was conſidered as an *element*, we were ignorant of the forces inherent in its particles; we are perhaps ſtill ignorant of this; but we *now* know that they are extremely different from what they were formerly ſuppoſed to be. It is but in a very few caſes of chemical combination, that we even know what are the ingredients: it is therefore too ſoon to ſpeculate about their mode of union. Our ignorance of the real events in the animal and vegetable economy is ſtill greater. Our firſt buſineſs therefore is to proceed in the accurate examination and claſſification of the phenomena; and without attempting to give mechanical explanations, let us drop theſe hidden operations, and augment to the utmoſt our liſt of ſecondary laws of viſible connections. All the mechanical ſpeculations of BOYLE himſelf about the ſenſible qualities of things are now forgotten; but his chemical experiments preſerve all their value, and are frequently referred to. The ſame may be ſaid of the ſagacious Dr Hales, whoſe fanciful notions of internal *conflicts*, *colliſions*, and *vibrations* have hardly diminiſhed the value of the curious facts which he has eſtabliſhed in the animal and vegetable economy.

This diſtinction in the nature of the phenomena, and this difference in the nature of the knowledge which is to be acquired, and the means which are to be employed for the ſucceſsful proſecution of theſe two branches of general phyſics, has occaſioned a farther reſtriction of the term NATURAL PHILOSOPHY, at leaſt among Britiſh naturaliſts. It is particularly applied to the ſtudy of phenomena of the firſt claſs, while thoſe of the ſecond have produced the ſciences of CHEMISTRY and PHYSIOLOGY. Natural philoſophy and chemiſtry have generally been made particular inſtitutions in our ſeminaries of learning, but phyſiology has more commonly been taught in conjunction with anatomy, medicine, and botany.

The phenomena of the firſt claſs have been uſually called MECHANICAL, to diſtinguiſh them from thoſe obſerved in the operations of chemiſtry, and in the animal and vegetable economy; and the explanations which have been attempted of ſome of the laſt, by applying the laws obſerved in the phenomena of the firſt claſs, have been called *mechanical explanations*. As this firſt claſs is evidently but a part of general phyſics, there is ſome impropriety in giving the name *natural philoſophy* to a courſe of doctrines which is confined to theſe alone.

But, be that as it may, ſince the terms *chemiſtry* and *phyſiology* have been applied to two important branches of general phyſics, we think that a more ſpecific or characteriſtic name ſhould be appropriated to the other, and that it may not improperly be named MECHANICAL PHILOSOPHY. It only remains to make a few obſervations on the different means of proſecuting theſe ſtudies ſucceſsfully, and to point out the advantages which may fully be expected from a careful proſecution of them: and as the ſecond branch is fully treated the under articles CHEMISTRY, PHYSIOLOGY, &c. we ſhall confine ourſelves to what is uſually called NATURAL PHILOSOPHY.

Sect. X. *Of* NATURAL *or* MECHANICAL PHILOSOPHY.

MECHANICAL PHILOSOPHY may be defined "the ſtudy of the ſenſible motions of the bodies of the univerſe, and of their actions producing thoſe motions with a view to diſcover their cauſes, to explain the phenomena, and to improve art." The principle upon which all philoſophical diſcuſſion proceeds is, that "*every change* which we obſerve in the condition of things is conſidered by us as an *effect*, indicating *the agency*, characteriſing the *force*, and meaſuring *the degree* of its *cauſe*."

In the ſtyle of mechanical philoſophy, the cauſe of any change of motion is called a moving or changing FORCE.

The diſquiſitions of natural philoſophy muſt therefore begin with the conſideration of MOTION, carefully noticing every affection or quality of it, ſo as to eſtabliſh marks and meaſures of every change of which it is ſuſceptible; for theſe are the only marks and meaſures of the changing forces. This being done, it only remains to apply them to the motions which we obſerve in the univerſe.

From the general principle of philoſophical diſcuſſion already mentioned, there flow directly two axioms: 1. "*Every body perſeveres* in a ſtate of *reſt*, or of *uniform rectilineal motion*, unleſs affected by ſome *moving force*. 2. *Every change of motion* is in the *direction* and in the *degree* of *force impreſſed*." Theſe are uſually called LAWS OF MOTION. They are more properly laws of human judgment, with reſpect to motion. Perhaps they are neceſſary truths, unleſs it be alleged that the general principles which they are neceſſary conſequences, is not contingent though univerſal truth. By theſe axioms, applied *in abſtracto* to every variety of motion, we eſtabliſh a ſyſtem of general doctrines concerning motions, according as they are free or compounded, accelerated, retarded, rectilineal curvilineal

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curvilineal, in ſingle bodies, or in ſyſtems of connected bodies; and we obtain correſponding characteriſtics and meaſures of accelerating or retarding forces, centripetal or centrifugal, ſimple or compound.

For an illuſtrious example of this abſtract ſyſtem of motion and moving forces, ſee Sir Iſaac Newton's *Math. Princ.* of *Nat. Philoſ.* Book I. Euler's *Mechanica, ſive Scientia Motus*, Herman's *Phoronomia, ſive de Viribus Corporum*, and D'Alembert's *Traité de Dynamique*, are alſo excellent works. In this abſtract ſyſtem no regard is paid to the actual differences of moving forces, or the forces from which they ariſe. It is enough to characteriſe a double accelerating force, for inſtance, that it produces a double acceleration. It may be a weight, a ſtream of water, the preſſure of a man; and the force, of which it is ſaid to be double, may be the attraction of a magnet, a current of air, or the action of a ſpring.

Having eſtabliſhed theſe general doctrines, the philoſopher applies them to the *general* phenomena of the univerſe, to diſcover the nature of the forces which really exiſt, and the laws by which their operations are regulated, and to explain intereſting but ſubordinate phenomena. This is the chief buſineſs of the mechanical philoſopher.

The phenomena muſt be claſſed according to their reſemblances, which infer a reſemblance in their cauſes, and theſe claſſes muſt be arranged according to ſome principle. We have ſeen no method which appears to us leſs exceptionable than the following.

The principle of arrangement is the generality of the phenomena; and the propriety of adopting it ariſes from the probability it gives of readily diſcovering the moſt general actuating forces, whoſe agency is implicated in all other phenomena of leſs extent; and therefore ſhould be previouſly diſcuſſed, that we may detect the diſcriminating circumſtances, which characteriſe the ſubordinate phenomena, and mark the diſtinguiſhing inferior natural powers.

The moſt general of all phenomena is the curvilineal motion of bodies in free ſpace; it is obſerved through the whole extent of the ſolar ſyſtem. The mechanical hiſtory of nature begins, therefore, with aſtronomy. Here, from the general phenomena of the planetary motions, is evinced the *fact* of the mutual deflection of every body towards every other body, and this in the inverſe proportion of the ſquares of the diſtance, and the direct proportion of the quantity of matter. This is the fact of UNIVERSAL GRAVITATION, indicating the agency, and meaſuring the quantity, of the univerſal force of mutual gravity.

The natural philoſopher next proceeds to point out all the particular facts which are comprehended under this general fact, and whoſe peculiarities characteriſe the different movements of the ſolar ſyſtem. That is, in the language of phiſophy, he gives a theory or explanation of the coordinate phenomena; the elliptical motions of the planets and comets, their mutual diſturbances; the lunar irregularities; the oblate figure of the planets; the nutation of the earth's axis; the preceſſion of the equinoxes; and the phenomena of the tides and trade winds: and he concludes with the theory of the parabolic motion of bodies projected on the ſurface of this globe, and the motion of pendulums.

He alſo takes notice of the applications which may be made to the arts of life of the various doctrines which are ſucceſſively eſtabliſhed; ſuch as chronology, aſtronomical calculation, dialling, navigation, gunnery, and the meaſuring of time.

If a ſquare parcel of ſand be lying on the table, and the finger be applied to any part of it to puſh it along the table, that part is removed where you will, but the reſt remains in its place; but if it is a piece of ſand ſtone of the ſame materials and ſhape, and the finger is applied as before, the whole is moved; the other parts accompany the part impelled by the finger in all its motions.

From the moon's accompanying the earth in all its motions round the ſun, we infer a moving force which connects the moon and earth. In like manner, we muſt conclude that a moving force connects the particles of the ſtone; for we give the name *force* to every thing which produces motion: We call it the force of COHESION; a term which, like gravitation, expreſſes merely a fact. This ſeems to be the next phenomenon of the univerſe in point of extent.

Having, from the general phenomenon, eſtabliſhed the exiſtence of this force, the philoſopher proceeds to aſcertain the laws by which its exertions are regulated; which is the aſcertaining its diſtinctive nature and properties. This he does in the ſame way that he aſcertained the nature of planetary gravitation, *viz.* by obſerving more particularly the various phenomena.

Here is opened a moſt extenſive and varied field of obſervation, in which it muſt be acknowledged that very little regular and marked progreſs has been made. The variety in the phenomena, and the conſequent variety in the nature of the connecting forces, appear as yet inconceivably great; and there ſeems little probability of our being able to detect in them all any fameneſs, combined with the other diſtinguiſhing circumſtances, as we have done in the caſe of gravity. Yet Boſcovich has ſhown clearly, that although we ſhould ſuppoſe every atom of matter to be endued with a perfectly ſimilar force, acting in a certain determined ratio of the imperceptible diſtances at which the particles of matter are arranged with reſpect to each other, the external appearances may, and muſt, have all that variety which we obſerve. He alſo ſhows how, from the operation of this force, muſt ariſe ſome of the moſt general and important phenomena which characteriſe the different forms of tangible bodies.

The chief varieties of the action of this CORPUSCULAR force are obſerved on the bodies which we call *hard, ſoft, ſolid, fluid, vaporous, brittle, ductile, elaſtic*. We ſee inſtances where the parts of bodies avoid each other, and require external force to keep them together, or at certain ſmall diſtances from each other. This is familiar in air, vapours, and all compreſſible and elaſtic bodies.

This is evidently a moſt intereſting ſubject of inquiry. On the nature and action of theſe corpuſcular

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pufcular forces depends the ſtrength or firmneſs of ſolids, their elaſticity, their power of communicating motion, the preſſure, and motion, and impulſe of fluids; nay, on the ſame actions depend all the chemical and phyſiological phenomena of expanſion, fuſion, congelation, vaporiſation, condenſation, ſolution, precipitation, abſorption, ſecretion, fermentation, and animal and vegetable concoction and aſſimilation. Out of this immenſe ſtore of phenomena, we ſelect thoſe which lead directly to the production or modification of ſenſible motion.

1. The communication of motion among detached and free bodies, eſtabliſhing the laws of impulſe or colliſion. This has always been conſidered as the elementary doctrine of mechanical philoſophy, and as the moſt familiar fact obſerved in the material world; and in all ages philoſophers have been anxious to reduce all actions of bodies on each other to impulſe, and have never thought a phenomenon completely explained or accounted for, till it has been ſhown to be a caſe of *impulſe*. This it is which has given riſe to a great variety of ridiculous and untenable hypotheſes. (See Optics, § 153—156.) But the philoſopher who has begun the mechanical ſtudy of nature by the abſtract doctrines of dynamics, and who has attended carefully to the many analogies between the phenomena of gravitation and cohefion, will entertain very different notions of this matter. He will be ſo far from thinking that the production of motion by *impulſe* is the moſt familiar fact in nature, that he will acknowledge it to be comparatively very rare, if indeed it has *ever been obſerved*. (See Optics, § 154, 155.) And he will be diſpoſed to think that the production of motion in this caſe is preciſely ſimilar to what we obſerve when we gently puſh one floating magnet towards another, with their ſimilar poles fronting each other. There will be the ſame production of motion in the one and diminution of it in the other, and the ſame uniform motion of the common centre of gravity: and, in this caſe of the magnets, he ſees completely the neceſſity of a law of motion, which is not an axiom, but is obſerved through the whole of nature, and which receives no explanation from any hypotheſis of an intervening fluid, but is even totally inconſiſtent with them: viz. "that every action of one body on another is accompanied by an equal and oppoſite action of that other on the firſt." This is uſually called the *equality of action and reaction*: it is *univerſal*; and it is a neceſſary conſequence of the perfect ſimilarity of the corpuſcular forces of the ſame kinds of matter. This general fact, unaccountable on the hypotheſis of impelling fluids, is conſidered in the planetary motions as the unequivocal indication of the ſameneſs of that gravity which regulates them all. We ſhould draw the ſame concluſion here, that the particles of tangible matter are connected by equal and mutual forces, which are the *immediate cauſes* of all their ſenſible actions, and that theſe forces, like gravitation, vary with every change of diſtance and ſituation.

The laws of colliſion and impulſion being thus eſtabliſhed, either as original facts, or as conſequences of the agency of equal and mutual forces which connect the particles of matter, the philoſopher conſiders,

2. The production of motion by the intervention of ſolid bodies, where, by reaſon of the cohefion of matter, ſome of the motions are neceſſarily confined to certain determinate paths or directions. This is the caſe in all motions round fixed points or axes, or along planes or curves which are oblique to the action of the forces. This part of the ſtudy contains the theory of machines, pointing out the principles on which their energy depends, and conſequently furniſhing maxims for their conſtruction and improvement. (See Mechanics.) But theſe obſervations do not complete the diſcuſſion of the mechanism of ſolid bodies: they are not only ſolid and hard, but they are alſo heavy; therefore the action of gravity muſt be combined with the conſequences of ſolidity. This will lead to diſcuſſions about the centre of gravity, the theory and conſtruction of arches and roofs, the principles of ſtability and equilibrium, the attitudes of animals, and many particulars of this kind.

3. The philoſopher will now turn his attention to another form, in which tangible matter exhibits many intereſting phenomena, viz. Fluidity. Sir Iſaac Newton ſays, "*a fluid is a body whoſe particles yield to the ſmalleſt impreſſion, and by ſo yielding are eaſily moved among themſelves.*" But this definition is not thought ſufficiently preciſe, as the words, *ſmalleſt impreſſion*, and *eaſily moving*, convey no determinate idea. Euler offers ſome very plauſible reaſons for doubting whether it will account for the horizontal ſurface, and the complete propagation of preſſure through the fluid in every direction; and therefore prefers ſelecting *this laſt phenomenon*, the propagation of preſſure *quâquâ-verſum*, as the characteriſtic of fluidity, becauſe a body having this conſtitution will have every other obſerved property of a fluid. But this definition is not perſpicuous, and the objections againſt Newton more intelligible definition are not unanſwered. Boſcovich defines a fluid to be, *a body whoſe particles exert the ſame mutual forces in all directions*, and ſhows, that ſuch particles muſt be indifferent as to any poſition, with reſpect to each other. If no external force act on them, they will have no tendency to arrange themſelves in one poſition rather than another; differing in this reſpect from the particles of ſolid, or ſoft, or viſcid bodies; which require ſome force to change their reſpective poſitions, and which recover their poſitions again when but gently diſturbed. He illuſtrates this diſtinction very beautifully, by comparing a parcel of balls thrown on quickſilver, and attracting each other, with a parcel of magnets in the ſame ſituation. The balls will ſtick together, but *in any poſition*; whereas the magnets will always affect a particular arrangement.

When the characteriſtic phenomenon of fluidity has been ſelected, the philoſopher proceeds to combine this property with gravity, and eſtabliſhes the doctrines of Hydroſtatics, or of the preſſure and equilibrium of heavy fluids, the propagation of this preſſure in every direction; and demonſtrates the horizontality of ſurface aſſumed by all perfect fluids. Theſe doctrines and prin-

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ciples enable us to determine several very interesting circumstances respecting the mutual pressure of solids and fluids on each other; the pressures exerted on the bottoms and sides of vessels; the support and whole mechanism of floating bodies, &c.

He then considers how fluids will move when their equilibrium of pressure is destroyed; and establishes the doctrines of HYDRAULICS, containing all the modifications of this motion, arising from the form of the vessels, or from the intension or direction of the pressure which occasions it. And this subject is completed by the consideration of the resistance which fluids oppose to the motion of solid bodies through them, and their impulse on bodies opposed to their action. These are very important matters, being the foundations of many mechanical arts, and furnishing us with some of our most convenient and efficacious powers for impelling machines. They are also of very difficult discussion, and are by no means completely investigated. Much remains to be done both for perfecting the theories, and for improving the arts which depend on them. On these doctrines depend the knowledge of the motions of rivers and of waves; the buoyancy, equilibrium, and stability of ships; the motion of ships through the waters; the action of the winds on the sails; and the whole arts of marine construction and seamanship.

Another general form of tangible matter exhibits very different phenomena, which are also extremely interesting; viz. VAPOUR. All the vapours known are heavy fluids: they are therefore subject to all the laws of pressure and impulse, which have been considered under the articles HYDROSTATICS and HYDRAULICS. But they are susceptible of great compression by the force of external forces, and expand again when these forces are removed. In consequence of this compression and expansion, the general phenomena of fluidity receive great and important modifications; and this class of fluids requires a particular consideration. As air is a familiar instance, a branch of mechanical philosophy has been called PNEUMATICS. Under this head we consider the pressure of the ATMOSPHERE, and its effects both on solid and fluid bodies. It produces the rise of waters or other fluids in pumps and tubes, and gives us the theory of their construction: it explains many curious phenomena of nature, such as the motions in the atmosphere, and their connection with the pressure of the air, and its effect on the barometer or weather glass. Air in motion, is called WIND; and it may be employed to impel bodies. The theory of its action and of its resistance to moving bodies, are figure to be considered.

Besides their motions of progression, &c. such bodies observe in winds, compressible or elastic fluids are susceptible of what may be termed *internal motion*; a kind of undulation, where the contiguous parts are thrown into tremulous vibrations, in which they are alternately condensed and rarefied; and these undulations are propagated along the mass of elastic fluid, much in the same way in which we observe waves to spread on the surface of water. These undulations are also the more ordinary causes of sound. A trembling chord, or spring, or bell, agitates the air adjoining to it: these agitations are propagated along the air, and by its intervention agitate the organ of hearing. The mechanism of these undulations has been much studied, and furnishes a very beautiful theory of musical harmony.

The philosopher examines the *law of compressibility* of air and other elastic fluids; and thus gets the knowledge of the constitution of the atmosphere, and of the action of those fluids when employed to impel solid bodies. Gunpowder contains an immense quantity of permanently elastic air, which may be set at liberty by inflammation. When this is done at the bottom of a piece of ordnance, it will impel a ball along the barrel, and discharge it from the muzzle, in the same way that an arrow is impelled by a bow. Having thus discovered in what degree this air presses in proportion to its expansion, we discover its action on the ball through the whole length of the piece, and the velocity which it will finally communicate to it. Hence the theory of artillery and of mines. Chemistry teaches us, that most bodies can be converted by fire into elastic fluids, which can be employed to act on other bodies in the way of pressure or impulse. They have become interesting by being employed as moving forces in some very powerful machines. See PROJECTILES.

The magnetical phenomena between magnets and iron have long attracted attention; and the use to which the polarity of the loadstone has been applied, in directing the course of a ship through the pathless ocean, has rendered these phenomena extremely interesting. (See MAGNETISM.) Considerable progress has been made in the arrangement and generalization of them; but the attention of philosophers was, as usual, misplaced by attempting to discover the ultimate cause of magnetism. Dr GILBERT of Colchester was the first who considered the magnetical phenomena in a truly philosophical manner; and his treatise *De Magnete*, published in 1580, may be considered as one of the most perfect specimens of the Baconian or inductive logic. *Æpinus's Tentamen Theoriæ Magnetismi* is also a most valuable work.

Another class of mechanical phenomena have a considerable affinity with the magnetical; viz. those of ELECTRICITY. Certain bodies, when rubbed or otherwise treated, attract and repel other bodies, and occasion a great variety of sensible motions in the neighbouring bodies. Philosophers have paid much attention to these appearances of late years, but have not been more successful in establishing a complete theory of them, than in the case of magnetism. Franklin and Æpinus have been most successful in this respect. Dr FRANKLIN has acquired great celebrity by his most judicious comparison of the phenomena; which has enabled him to establish a few general laws, almost as precise as those of Kepler, and of equally extensive influence. His discovery too of the identity of thunder and electricity has given importance to the whole subject. There are many

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phenomena of electricity which cannot be called mechanical, yet are curious and intereſting, and continue to engage much of the public attention.

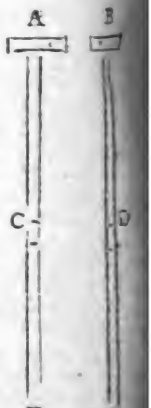
The appearances preſented by our ſenſe of ſeeing form another branch of natural philoſophy in all ſeminaries of learning. See OPTICS. They are not however properly mechanical phenomena. The nature of LIGHT is ſtill a ſecret. The general laws of optics, however, are ſo few, ſo ſimple, and ſo preciſe, that our theories are more perfect in this ſcience, than in any other branch of phyſics; though as yet far removed from the rank of primary facts. Many unknown events happen before the phenomenon comes under the hands of the ordinary optician, ſo as to become the ſubjects of the ſimple laws of reflection and refraction. Apparition or viſibility may be a quality of a body, depending on the proximity and poſition of another body, without any thing between them, juſt as weight is; and this quality may be cognizable by our faculty of *ſeeing* alone, juſt as the preſſure of a heavy body is by our *feeling* alone.

Mr ROEMER firſt made it probable, that mechanical philoſophy had ſomething to do with the phenomena of optics, by his diſcovery "that apparition was not inſtantaneous; that ſome time elapſed between the illumination of a body and its being ſeen at a diſtance. He diſcovered, that it was not till 40 minutes after the ſun illuminated one of Jupiter's ſatellites that it was ſeen by an inhabitant of this globe. If therefore a ſun were juſt created, it would be 40 minutes before Jupiter would be illuminated by him, and 200 before the Georgian planet would be illuminated. Here then is motion. It is therefore juſtly ſuppoſed, and indeed is highly probable, that there is ſomething moved; but it is ſtill doubted whether this ſomething, which we call LIGHT, is a matter emitted from the ſhining body, and moving with great velocity, and acting on and affected by other bodies, in the various phenomena of optics; or whether it is a *certain ſtate* of a medium which is thus propagated, as we ſee that waves are propagated along the ſurface of water, or ſonorous undulations through the maſs of air, while the water or air itſelf is hardly moved out of its place. See LIGHT, § 4, &c.

There are, however, many chemical facts, and facts in the vegetable œconomy, which give ſtrong and almoſt undeniable indications of light being a body capable of chemical union with the other ingredients of ſublunary bodies, and of being afterwards ſet at liberty under its own form, as the cauſe or medium of viſion. But theſe are queſtions ſimilar to thoſe about the *cauſe of gravity*, and totally unneceſſary for eſtabliſhing a complete theory of the optical phenomena, the nature of viſion, the cauſe of colours, the phenomena of the rainbow, halos and perihelions, &c. &c. Such is the field of inquiry to the mechanical philoſopher of the preſent day. We may hope to extend it; but we muſt, in the firſt place, perfect our knowledge of the ſenſible motions and actions of bodies. Thoſe of FLUIDS ſtill demand much inveſtigation; and till theſe are thoroughly underſtood, it is too ſoon to attempt penetrating further into the receſſes of nature.

In this ſtudy, it is found that every change which can be obſerved in the ſtate of a body, with reſpect to motion by the action of another body, is accompanied by an equal and oppoſite change in the ſtate of that body. Thus, in the phenomena of gravitation, it is obſerved that the deflections of the ſun and planets are mutual. The ſame thing is obſerved in the actions of magnets on each other and on iron; it is alſo obſerved in the attractions and repulſions of electrical bodies; and it obtains in all the phenomena of impulſe and of corporeal preſſure. It is therefore an univerſal law of motion, that *action is always equal and oppoſite to reaction*: but this muſt be conſidered merely as a matter of fact, a contingent law of nature, like that of gravitation. Much falſe reaſoning has been introduced into mechanical philoſophy, and particularly into the theory of impulſion or the communication of motion by impulſe. In conſidering this ſubject, a term has been introduced which has occaſioned much wrangling and miſconception; we mean the term INERTIA. It ſerves indeed to abbreviate language, but it has often miſled the judgment; and the doctrine of the VIS INERTIÆ of matter is now generally exploded. (See MECHANICS, *Part* III. *Sect.* II.)

If the word *inertia* be taken as expreſſing, not a quality of matter, but a law of human judgment reſpecting matter, as expreſſing our neceſſity of inferring the agency of a moving force whenever we obſerve a change of motion, all difficulties will vaniſh, and the equality of action and reaction will be inferred, as it ſhould be from the phenomena of colliſion. There will be inferred a *vis inſita corpori impellenti*, not *quâ moventi*, but *quâ corpori*; and this inference will carry us through all the myſteries of corporeal action, as it conducted Sir Iſaac Newton in his grand researches.



To illuſtrate this, let A and B be two magnets faſtened on the ends of two long wooden laths AE, BF, which turn horizontally on pivots C, D, like compaſs needles, with their north poles fronting each other, 12 inches apart; and let A be puſhed towards B, ſo that it would move uniformly with the velocity of two inches in a ſecond. The phenomena *which have been obſerved* are as follow: A will gradually diminiſh its velocity; and when it has advanced about nine inches, will ſtop completely. B, in the mean time, will gradually acquire motion; and when it has advanced about nine inches, have a velocity of about two inches per ſecond, with which it will continue to move uniformly. Becauſe the motion of A is gradually retarded, we infer that a retarding force, that is, a force in the direction BA has acted on it. And ſince this would not have happened if B had not been there, and always happens when B is there, we infer that B is either its cauſe or the occaſion of its action. The vulgar ſay that B repels A; ſo ſay the dynamics. The

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The abettors of invisible fluids say, that a stream of fluid issuing from B impels A in the opposite direction. All naturalists agree in saying, that an active force connected with B has destroyed the motion of A, and consider this curious phenomenon as the indication and characteristic of a discovery. The same inference is made from the motion produced in B: it is considered by all as affected by a force exerted or occasioned by the presence of A; and the dynamists and the vulgar say that A impels B. And both parts conclude, from the equal changes made on both bodies, that the changing forces are equal: here acknowledging, that they observe an equality of action and reaction; and they add this to the other instances of the extent of this law of motion. All this while nobody thinks of the *inertia* or *inactivity* of B, but, on the contrary, conclude this to be a curious instance of its *gravity*; and most people conclude that both bodies carry about with them a *vis insita* both when at rest and when in motion.

But if other phenomena give unquestionable evidence that, in ordinary collisions, there are the same changes of motion, produced without mathematical contact, the same inferences must be drawn; and a scrupulous naturalist will doubt whether contact should make any change in our reasonings on the subject, and whether actual contact ever has been or can be observed. See Optics, § 153, 154.

Which seems to be the limit to our inquiries into the classes of natural phenomena. We find the masses or the particles of matter endued in part with qualities, which affect the state of other particles or masses, at smaller or at greater distances from each other according to certain general rules or laws. This ultimate step in the constitution of things is inscrutable by us. It is arrogance to say, that because we do not comprehend how there is inherent in a body any quality by which another body may be affected at any distance from it, therefore no such quality is possible. It is no less so to say, that matter has no active property but that of moving other matter by impulse; and that because it may be so moved, and also by the agency of our own minds, therefore, when it is not moved by impulse, it is moved by minds. The same almighty FIAT which brought a particle of matter into existence could bring those qualities equally into existence; and the *how* in both is equally beyond our comprehension.

Yet we must guard against resting on this consideration as a stop to further inquiry. There may be species of matter possessed of the mechanical powers, which is not cognisable by our senses. All the properties of matter are not known to persons who are deaf and blind; and many phenomena may really be produced by the action of intervening matter, which we, from indolence and haste, ascribe to inherent forces. Philosophers have already discovered intermedia in some cases. It is certain that AIR is the conveyer of sound, and it is equally certain that there is such a thing as LIGHT. Let us therefore indulge conjectures, but let us examine these by the received laws of motion, and reject them when we find any inconsistency; always keeping in mind, that even the most coincident with the phenomena is still but a possibility.

These questions about the activity or inactivity of matter are not *physical*, but *metaphysical*. Natural philosophy, commonly taken it for granted that matter is wholly inactive; but it is not of any moment in physics whether this opinion is true or false; whether matter is acted on according to certain laws, or whether it acts of itself according to certain laws, makes no difference to the natural philosopher. It is his business to discover the laws which really obtain, and to apply these to the solution of subordinate phenomena; but whether these laws arise from the nature of some agent external to matter, or whether matter itself is the agent, are questions which may be above his comprehension, and do not immediately concern his proper business.

The account now given of natural philosophy points out the way, in which the study must be prosecuted. The causes, powers, or forces, which produce the mechanical phenomena of the universe, are known only in the phenomena themselves. Our knowledge of the mechanical powers of nature must therefore keep pace with our knowledge of the motions. To discover the forces by which the moon is retained in her orbit round the earth, we must know her motions. To a terrestrial spectator she appears to describe an ellipse, having the earth in one focus; but, in the mean time, the earth is carried round the sun, and the moon's real path, in absolute space, is a much more complicated figure. Till we know this figure, and the variations in the velocity with which it is described, we know nothing of the forces which actuate the moon in her orbit. When Newton says, that the forces by which she is retained in this elliptical orbit are directed to the earth, he means only, that the deflection from that uniform rectilineal motion, which she would otherwise have performed, are always in this direction. In like manner, when he says that these forces are inversely proportionate to the squares of her distances from the earth, he only means that the deflections made in equal times in different parts of her motion are in this proportion. These deflections are considered as the characteristics and measures of the forces. We imagine that we have made all plain, when we call this indicated cause a *tendency* to the earth; but we have no notion of this tendency to the earth different from the approach itself. This word tendency, so fashionable among the followers of Sir Isaac Newton, is perverted from its original sense. *Tendere versus solem*, is, in the language of Rome, and also of Newton, *to go* towards the sun; but we now use the words *tend*, *tendency*, to signify, not the *approach*, but the *cause* of this approach. When these expressions have become familiar, the original sense of the word is forgotten, and this metaphor becomes a fruitful source of misconception and mistake. To secure ourselves against such mistakes from mystical notions, we must consider the way in which we acquire the knowledge of these fancied powers; and then we see that their names are only names for phenomena, and that universal gravitation is only an universal mutual approach among the parts of the solar system.

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In a word it is only in those parts of natural philosophy which have been mathematically treated, that the investigations have been carried on with certainty, success, and utility. Without this guide, we must expect nothing but a schoolboy's knowledge.

Motions, are the real and only objects of our observation, the only subjects of our disussion. In motion is included no ideas but those of space and time, the subjects of pure mathematical disquisition. As soon therefore, as we have discovered the fact, the motion, all our future reasonings about this motion are purely mathematical, depending only on the affections of figure, number, and proportion, and must carry along with them that demonstration and irresistible evidence which is the boast of that science. To this are we indebted for that accuracy which is attained, and the progress which has been made in some branches of mechanical philosophy; for when the motions are distinctly and minutely understood, and then considered only as mathematical quantities, independent of all physical considerations, and we proceed according to the just rules of mathematical reasoning, we need not fear any intricacy of combination or multiplicity of steps; we are certain that truth will accompany us, and will emerge in our final proposition, in the same manner as we see happen in a long and intricate algebraic analysis.

Mechanical philosophy, therefore, thus cultivated is not a system of *probable* opinions, but a *demonstrative* science. To possess it, however, in this form, requires considerable preparation. The mere elements of geometry and algebra are by no means sufficient. Newton could not have proceeded *sine "sua matheseos facem preferente;"* and, in creating a new science of physics, he was obliged to search for and discover a new source of mathematical knowledge. It is to be regretted that the taste for the mathematical sciences has declined in this country of late years; and that Britain, which formerly took the lead in natural philosophy, should now be the country where they are least cultivated. It is to foreign writers that we have recourse in our seminaries, even for *elementary treatises*; and while the continent has supplied us with the most elaborate and useful treatises on various articles in physical astronomy, practical mechanics, hydraulics, and optics, there has not appeared in Britain half a dozen treatises worth consulting for these last 50 years; notwithstanding the unparallelled munificence of our sovereign, who has given more liberal patronage to the cultivators of mathematical philosophy, and indeed of science in general, than any prince in Europe. The magnificent establishments of Lewis XIV. orignated from his insatiable ambition, directed by the sagacious Colbert. And his patronage being exerted according to a regular plan of pensioned academics, and in procuring the combined efforts of the *most eminent* men of all countries, all Europe was filled with his eulogists. But all this was done without the smallest retrenchment of his pleasures, the expences being furnished out of the public revenues of a great and oppressed nation; whereas the voyages of discovery, the expensive observations and geodetical operations in Britain, and the numerous pensions given to men of science and activity, were all furnished out of the private estate of our excellent sovereign, who seems to delight in repaying, by every service in his power, the attachment of a loyal and happy nation. It is therefore to be wished, that his patriotic efforts were properly seconded, and that the taste for the mathematical sciences may again turn the eyes of Europe to this country for instruction and improvement. The present seems a most favourable era for this purpose.

On the whole mechanical philosophy is also entirely a mathematical study, and is to be successfully prosecuted only under this form: but our endeavours to initiate the young student will often require more steadiness of thought than can generally be expected in such abstract speculations. It is usual therefore to employ experiments to assist the young student; and most courses of natural philosophy are accompanied by a series of such experiments, connected by a short train of argumentative discourse. Such are the usual courses which go by the name of *experimental philosophy*; altho' such courses are little more than *illustrations* of known doctrines by experiments.

Sect. XI. *Of* Experimental Philosophy.

Experimental Philosophy is the investigation of general laws, by experiment; and as observed, under the article Philosophy, it is the most infallible, if not the only way of arriving at the knowedge of them. This is the *Novum Organum Scientiarum*, so strongly recommended by Lord Verulam. It was new in his time, though without example; for there was even in his time a very beautiful example of this method, in his Treatise of the Loadstone, by Dr Gilbert of Chester; a work which has hardly been excelled by any, and which, when we consider the time, 1580, is really a wonderful performance. The most perfect model of this method is Sir Isaac Newton's *Opticks*. Dr Black's *Essays on Magnesia* is another. Dr Franklin's *Theory of Electricity* another example of great merit. That this investigation is not complete, is not an objection. The method is without fault; and a proper correction is given for the experiments still wanting for establishing the general laws.

But although many beautiful and successful examples have been given as particular branches of inquiry, there are many instances of inaccurate and inconclusive investigations. Experiments made at random, almost without view, serve but little to advance our knowledge. Every little series of experiments by Margraff terminates in a general law, while hardly any general conclusion can be drawn from Pott's numerous experiments. Lord Verulam has written much on this subject, and with great judgment; but he has in this fatigued his reader by his numerous rules; which are rather obscure, so that this valuable part of his writings is little read.

A formidable objection has been made to this method of inquiry. Since a physical law is only the expression of a general fact, and is established

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y in consequence of our having observed a similari-
y in a great number of particular facts; and since
e great rule of inductive logic is, to give the law
greater extent than the induction on which it
founded, why should a few experiments be re-
ived as the foundation of a general inference?
his has been partly answered in the article PHI-
OSOPHY. But it may be of use to consider the
bject more particularly; in doing which we
all quote some observations from the disserta-
on on evidence by Dr Campbell in his *Philosophy of Rhetoric*.

From an attentive consideration of the objects
round us, we find that they are generally of a
omplicated nature, not only as consisting of a
ultiplication of those qualities, called *accidents*,
ch as gravity, mobility, colour, figure, solidity,
hich are common to all bodies; but also as con-
sting of a mixture of a variety of substances, dif-
rent in their nature and properties; each of
hich is perhaps compounded of ingredients more
mple. "The farther we advance in the know-
dge of nature, the more her constancy in all her
erations appears. Like causes always produce
e effects, and like effects are always preceded
like causes. Inconstancy sometimes appears
Nature's works at *first sight*; but a more refined
perience shows us that this is but an appearance,
d that there is no inconstancy; and we explain
thus: Most objects being of a complicated na-
e, we find, on an accurate scrutiny, that the
ts ascribed to them ought often to be solely
ibed to some of their component parts; and
variety of nature is so great, that hardly any
o individuals of the same species are in every re-
ct alike. On these accounts we expect dissimi-
rities in the phenomena accompanying perfectly
milar treatment of different subjects of the same
d; but we find, that whenever we can be as-
red that the two substances are perfectly alike,
e phenomena arising from similar treatment are
e same: and extensive observation teaches us,
at there are certain circumstances which insure
the perfect similarity of constitution of some
gs. When therefore we observe the effect of
y natural agent on one of these, we expect that
e same will be produced on any other.

If a botanist should meet with a new plant, and
bserve that it has 7 monopetalous flowers, he
ill conclude that every plant of this species will
ave monopetalous flowers; but he will not sup-
se that it will have *only* seven flowers.

Thus we learn, that *perfect* uniformity is not to
expected in any instance whatever, because in
instance is the simplicity of constitution suffici-
tly great to give us assurance of perfect unifor-
ity in every circumstance of the case. The near-
s however, that our investigations carry us to
e knowledge of *elementary* natures, the more are
e convinced by general experience of the uni-
rmity of the operations of real elements; and al-
ough it may perhaps be impossible for us ever
arrive at the knowledge of the simplest ELE-
ENTS of any body, (See CHEMISTRY, *Index*,)
et when any thing *appears* simple, or rather so
actly uniform, as that we have invariably ob-
rved it to produce similar effects on discovering
any *new* effect of this sub stance, we conclude, from a general experience of the efficient, a like constancy in the energy as to the rest. Fire consumes wood, melts metals, and hardens clay. In these instances it acts uniformly. If therefore a trial be made for the first time of its influence on any particular substance, he who makes it is warranted to conclude that the effect will be the same.

This general conclusion, therefore, drawn from one experiment, is by no means in opposition to the great rule of inductive logic, but, on the contrary, it is the most refined application of it. A law still more general, viz. *that nature is constant in all its operations*, is the inference which is here applied as a principle of explanation of a phenomenon which is itself a general law, viz. *that nature is constant in* this *operation*. The foundation of this general inference from one experiment being established, experiments must be an infallible method of attaining to the knowledge of nature; and we need only take care to proceed in a way agreeable to the great rule of inductive logic; that is, the subject must be cleared of every accidental and *unknown* circumstance, and put into a situation that will reduce the interesting circumstance to a state of the greatest possible simplicity. Thus we may be certain that the event will be a faithful representative of every similar case; and unless this be done in the preparation, nothing can result from the most numerous experiments but uncertainty and mistakes.

The account given above of MECHANICAL PHILOSOPHY would seem to indicate, that experiment was not of much use in the farther prosecution of it. The two laws of motion, with the assistance of mathematics, seem fully adequate to the explanation of every phenomenon; and so they are to a *certain degree*. But this degree is as yet very limited. Our mathematical knowledge, great as it is in comparison with that of former times, is still inadequate to give accurate solutions even of very simple questions. We can tell, with the utmost precision, what will be the motions of two particles of matter, or two bodies, which act on each other with forces proportioned to the squares of the distances inversely; but if we add a third particle, or a third body, acting by the same law, the united science of all Europe can only give an approximation to the solution. What is to be done then in the cases which often occur, where millions of particles are acting at once on each other in every variety of situation and distance? How shall we determine the motion of water through a pipe or fluice when urged by a piston or by its own weight? what will be its velocity and direction? It is impossible, in the present state of mathematical knowledge, to tell with any precision or certainty. We must have recourse to experiment. But if this be the case, must the experiment be made in every possible variety of situation, depth, figure, pressure? or is it possible to find out any general rules, founded on the general laws of motion, and rationally deduced from them? Or, if this cannot be accomplished, will experiments furnish any general coincidences which show such mutual dependences, that we may consider them as indications of general principles, though

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though subordinate, complicated, and perhaps inscrutable? This can be discovered by experiment alone.

Philosophers have turned their attention to each of these three chances, and considerable progress has been made in them all. Numerous experiments have been made, almost sufficient to direct the practice in many important cases, without the help of any rule or principle whatever. But there are many cases, and these of by far the greatest importance, such as the motion of a ship impelled by the winds, resisted by the water, and tossed by the waves, where distinct experiments cannot be made.

Newton, Bernoulli, D'Alembert, and others, have laboured hard to deduce from the laws of motion rules for determining, what may be called the *average* motion of water in these circumstances, without attempting to define the path or motion of any individual particle; and they have actually deduced many rules which have a great degree of probability. But the premisses are only *suppositions*, assumed to simplify the circumstances, and to give room for mathematical reasoning; therefore these rules and deductions must be examined by experiment. Some of the suppositions are such as can hardly be refused, and the rules deduced from them are found to tally precisely with the phenomena. Such is this, "that the velocities of issuing water in similar circumstances are in the sub-duplicate ratio of the pressures." And this rule gives a most important and extensive information to the engineer. Other suppositions are more gratuitous, and the rules less coincident with phenomena. The sagacious Newton repeatedly failed in his attempts to determine what is the *absolute velocity* of water issuing from a hole in the bottom of a vessel when urged by its weight alone, and the attempts of others have succeeded no better. Experiment is therefore still necessary.

Those who have aimed at the discovery of *rules*, purely experimental, have been pretty successful. Chevalier Buat has, from a comparison of an immense variety of experiments, deduced an empirical rule, which will not be found to deviate from truth above one part in ten, in any case which has yet come to our knowledge. This instance may show the use of experiments in mechanical philosophy. It is proper in all cases by way of illustration; and it is absolutely necessary in most, either as the foundation of a characteristic of a particular class of phenomena, or as argument in support of a particular doctrine. Hydrostatics, hydraulics, pneumatics, magnetism, electricity, and optics, can hardly be studied in any other way; and they are at present in an imperfect state, and receiving continual improvement by the labours of experimental philosophers in all quarters of the world.

Having thus given a pretty full enumeration of the different subjects to be considered in the study of natural philosophy, it is needless to spend time in a detail of the advantages which may be expected from a prosecution of this study. Its intimate connection with the arts gives it a sufficient recommendation to the attention of every person. It is the foundation of many arts, and gives liberal assistance to all. To this science the navigator must have recourse for that astronomical knowledge which enables him to find his place in the trackless ocean; and although very small scraps of this knowledge are sufficient for the mere pilot, the study must be prosecuted to the utmost by some persons, that the unlearned pilot may get that degree of it which must direct his routine. The tables of the sun's declination, which he uses to find his latitude, require the successive and unbounded labours of all the astronomers of Europe to make them tolerably exact: and to ascertain his longitude with precision, it required all the genius of a Newton to detect the lunar irregularities, and bring them within the power of the calculator. Till this was done, the respective position of the different parts of the earth could not be ascertained. Vain would have been the attempt to do this by geodætical surveys independent of astronomical observation. It is only from the most refined mechanics, that we can hope for sure principles to direct us in the construction and management of a ship, the great means of communication between the different quarters of the globe.

A knowledge of mechanics little inferior to that is necessary to enable the architect to execute some of his greatest works, such as domes and arches, which depend on the nicest adjustment of equilibrium. Without this he cannot unite economy with strength; and his works must either be clumsy masses or flimsy shells. The effects of artillery cannot be understood or secured without similar knowledge. The whole employment of the engineer, civil or military, is a continual application of almost every branch of mechanical knowledge; and while the promises of a Smeaton, a Watt, a Belidor, may be confided in, the numberless failures and disappointments in the most important and costly projects show us daily the ignorance of the crowd of engineers.

The microscope, the steam-engine, the thunder-rod, are presents which the world has received from the natural philosopher; and although the compass and telescope were the productions of chance, they would have been of little service, had they not been improved by Gilbert, Halley, and Dollond. But it is not in the arts alone that the influence of natural philosophy is perceived: it lends its aid to every science, and in every study. It is often necessary to have recourse to the philosopher in disputes at law concerning property, and many examples might be given where great injustice has been the consequence of the ignorance of the judges. Knowledge of nature might have prevented many disgraceful condemnations for sorcery. The historian who is ignorant of natural philosophy easily admits the miraculous into his narrations, accompanies these with his reflections, draws consequences from them, and fills his pages with prodigies, fables, and absurdity.

It is almost unnecessary to mention the advantages which accrue to the physician from this study. So close is the connection between it and medicine, that our language has given but one name (Physiologist,) to the naturalist and to the medical philosopher. Indeed, the whole of his study is a close observation of the laws of material nature, to draw from them precepts to direct

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t his practice in the art of healing. A knowlge, therefore, of the mechanical laws of the maial world is not only a convenient, but a neceſy, accompliſhment to the phyſician. We are tified in this opinion, by obſerving medical auors introducing into medicine theories borrowed m mechanical philoſophy, which they do not derſtand, and which they therefore miſapply. But there is no claſs of men to whom this ſcice is of more ſervice, than to the teachers of reion. Their knowledge in their own ſcience, d their public utility, are much hurt by ignorance the general conſtitution of nature; and it is to regretted that this ſcience is generally neglecd by them, or conſidered only as an elegant acmpliſhment: nay, it is too frequently ſhunned a dangerous attainment, as likely to unhinge ir own faith, and taint the minds of their hear. We hope, however, that few are ſo feebly ted in the belief of the great doctrines of reion as to fear this. But many have a ſort of rror at all attempts to account for the events of ture by the intervention of general cauſes, and ak this procedure derogatory to the Divine na-e, and inconſiſtent with the doctrine of his parlar providence. Their limited conceptions not perceive, that, in forming the general law, Great Artiſt did at one glance ſee it in its reſt and moſt minute conſequences, and adjuſt reſt aſſemblage ſo as completely to anſwer e purpoſe of his providence. There never was e eager inquirer into the laws of nature, or ſame time a more ardent admirer of its glo-Author, than the Hon. Robert Boyle. Greatſtaken therefore are they who think that we ſcode the exiſtence of MIND and of providence we trace things to their cauſes. A phyſical ſeeing an unvaried fact, is an indication, and ſtrongeſt poſſible indication, of an unerring d, who is incapable of change. The operas of unerring mind will therefore be regular invariable. Phyſical laws, therefore, or ſeary cauſes, are the beſt proofs of unerring dom. Such regularity of conduct is univerly conſidered as indications of wiſdom among . And what aſtoniſhing evidences of wiſdom e not obſerve in the general laws of the maal world? They will ever be conſidered by the ligent philoſopher as the moſt glorious diſy of inconceivable wiſdom, which has been e, by means ſo few and ſo ſimple, to produce ects which by their grandeur aſtoniſh our feeble derſtandings, and by their inexhauſtible variety ffle all poſſibility of enumeration.

While the teachers of religion remain ignorant the beautiful laws of nature, the great characſtics of the wiſdom and goodneſs of the Alſty Creator, their hearers are deprived of ch ſublime pleaſure; the Deity is deprived of e praiſe which he would receive from an enſtened people; and the only worſhip he reives is tainted with mean notions of his attriſtes, and groundleſs fears of his power.

Let none be afraid of the pernicious effects of loſophy, in conſequence of the dreadful exloſion which the vanity of man has lately made France. The ruffians who lately ruled in that happy country, ſtill groaning under deſpotiſm, continually imputed to the illumination of philoſophy the ardour which animated them in the cauſe of liberty; and they pretended that juſtice and morality were the order of the day. But their whole profeſſions of liberty and philanthropy were contradicted by their practice. The ſacred name of philoſophy was as unfit for their faithleſs and bloody mouths as the names of liberty or virtue, and was equally miſapplied. No wonder that religion fled from the torch of their philoſophy: for their philoſophy conſiſted expreſsly in the confounding the moſt diſtinct claſſes of phenomena and of beings, in aſſimilating the heavenly animating ſpark within us to a piece of rude matter, and in degrading man to the level of the brutes, and thus ſhutting out his faireſt proſpects. This they did in the face of the world, when they paſſed an act of the convention, to put an inſcription on all church-yard doors, that "*Death is only eternal ſleep.*" But it is not by the ordinary exertions of the divine, that ſuch ſacrilegious confuſion can be rectified: this requires an intimate acquaintance with what is characteriſtic of *mind* and what is characteriſtic of *matter*, and a comprehenſive view of the general laws which regulate the appearances in both claſſes of objects. Thus, and thus alone, will the divine be able to confute the deteſtable ſophiſms of Mirabeau, Diderot, and the other *ſoi-diſant* ſages of France. Beſides theſe advantages which ariſe to different claſſes of men from this ſtudy, there are ſome effects which are general, and are too important to be paſſed over. That ſpirit of diſpaſſionate experimental inquiry, which has ſo greatly promoted this ſtudy, will carry with it, into every ſubject of inquiry, that conſtant appeal to fact and experience which characteriſe it. And the ſuperior method which diſtinguiſh ſome of the later productions in other ſciences, have been in a great meaſure owing to this mathematical ſpirit, the ſucceſs of which in natural philoſophy has gained it credit, and thus given it an unperceived influence even over thoſe who have not made it their ſtudy. The truths alſo which the naturaliſt diſcovers are ſuch as do not in general affect the paſſions of men, and have therefore a good chance of meeting with a candid reception. Thoſe, whoſe intereſt it is to keep men in political or religious ignorance, cannot eaſily ſuſpect bad conſequences from improvements in this ſcience; and if they did, have hardly any pretext for checking its progreſs. And diſcoveries accuſtom the mind to novelty; and it will no longer be ſtartled by any conſequences, however contrary to common opinion. Thus the way is paved for a rational ſcepticiſm, and a free inquiry on other ſubjects. Experiment, not authority, will be conſidered as the teſt of truth; and under the guidance of experience we need fear no ill.

Finally, as it is the buſineſs of philoſophy to deſcribe the phenomena of nature, to diſcover their cauſes, to trace the connection and ſubordination of theſe cauſes, and thus obtain a view of the whole conſtitution of nature; it is plain that it affords the ſureſt path for arriving at the knowledge of the great cauſe of all, of GOD himſelf, and for forming proper conceptions of him and of our relations to him: notions infinitely more juſt than

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can ever be entertained by the careleſs ſpectator of his works. Such a contemplation is in the higheſt degree pleaſant and cheering, and cannot fail of impreſſing us with the wiſh to co-operate in the glorious plan, by acting worthy of the place we hold among the works of God, and with the hopes of one day enjoying all the ſatisfaction that can ariſe from conſcious worth and conſummate knowledge; and this is the worſhip which G will approve. "This univerſe (ſays Boyle) is magnificent temple of its great Author; and is ordained, by his powers and qualifications, high prieſt of nature, to celebrate divine ſervice this temple of the univerſe." *Enc. Brit.*

PHY

* PHYSIOGNOMER. See PHYSIOGNOMIST.

* PHYSIOGNOMICK. See PHYSIOGNOMONICK.

* PHYSIOGNOMIST. PHYSIOGNOMER. *n. ſ.* [*phyſiognomiſte*, Fr. from *phyſiognomy*.] One who judges of the temper or future fortune by the features of the face.—A *phyſiognomer* wiſhed he might not die, becauſe he would ſow much diſſention among the Chriſtians. *Peacham.*—Apelles made his pictures ſo very like, that a *phyſiognomiſt* and fortune-teller foretold, by looking on them, the time of their deaths whom thoſe pictures repreſented.

PHY

Dryden.—Let the *phyſiognomiſts* examine his tures. *Arb. and Pope.*

(1.) * PHYSIOGNOMONICK. PHYSIOGNOMICK. *adj.* [φυσιογνωμονικος; from *phyſiognomy*.] Drawn from the contemplation of the face; verſant in contemplation of the face.

(2.) PHYSIOGNOMONICS, *n. ſ.* among phy denote ſuch ſigns as, being taken from the tenance, ſerve to indicate the ſtate, diſpoſiti both of the body and mind; and hence the reducing theſe ſigns to practice is termed *nomy*.

PHYSIOGNOMY.

PHYSIOGNOMY is thus defined by Dr Johnſon:

* PHYSIOGNOMY. *n. ſ.* [for *phyſiognomony*; φυσιογνωμια; *phyſiognomie*, French.] 1. The act of diſcovering the temper, and foreknowing the fortune by the features of the face.—In all *phyſiognomy*, the lineaments of the body will diſcover thoſe natural inclinations of the mind which diſſimulation will conceal. *Bacon's Nat. Hiſt.* 2. The face; the caſt of the look.—

The aſtrologer, who ſpells the ſtars,
Miſtakes his globes, and in her brighter eye
Interprets heaven's *phyſiognomy*. *Cleaveland.*
They'll find i' th' *phyſiognomies*
O' th' planets all men's deſtinies. *Hudibras.*

—The end of portraits conſiſts in expreſſing the true temper of perſons, and to make known their *phyſiognomy*. *Dryden.*—The peculiar *phyſiognomy* of the mind is moſt diſcernible in children. *Locke.*

PHYSIOGNOMY is formed from the Greek φυσις, *nature*, and γινωσκω, *I know*. It is a ſcience which occupied much of the attention of ancient philoſophers, and which, ſince the revival of learning, has been much diſregarded.

"Till of late," (ſays the ingenious WILLIAM MAXWELL MORISON, Eſq. whoſe account we ſhall uſe the freedom to quote,) "it has ſeldom in modern times been mentioned, except in conjunction with the exploded arts of magic, alchemy, and judicial aſtrology. It does not appear that the ancients extended the compaſs of phyſiognomy beyond *man*, or at leaſt animated nature: But the ſtudy of that art was revived in the middle ages, when, miſled probably by the comprehenſiveneſs of the etymological meaning of the word, or incited by the prevalent taſte for the *marvellous*, thoſe who treated of the ſubject ſtretched the range of their ſpeculation far beyond the ancient limits. The extention of the ſignification of the term was adopted univerſally by thoſe naturaliſts who admitted the theory of ſignatures (ſee SIGNATURE); and phyſiognomy came thus to the knowledge of the *internal* properties corporeal exiſtence from the *external* appe John Baptiſt Porta, for inſtance, who was ſiognomiſt and philoſopher of conſiderable nence, wrote a treatiſe on the phyſiog *plants (phyſiognomonica)*, in which he phyſiognomy as the generic term. The treatiſe likewiſe *De Phyſiognomia Animalium*, by the ſame perſon. In the *Magia Phyſ* of Gaſpar Schottus, *phyſiognomia humana* a *ſubdiviſion* of the ſcience.

"BOYLE too adopts the extenſive ſig bove mentioned, which indeed ſeems to at one time the uſual acceptation of th At preſent phyſiognomy ſeems to mean than "a knowledge of the moral character tent of intellectual powers of human beings their external appearance and manners."

"Phyſiognomy was much cultivated in and India; and from theſe countries Pyth probably introduced the rudiments of this as he did thoſe of many others, into Greece. the time of Socrates it appears even to have adopted as a profeſſion. Phyſiognomy, Ari obſerves, had been treated of in three ways: philoſophers claſſed animals into genera, a ſcribed to each genus a certain mental diſpo correſponding to their corporeal appearance thers made a farther diſtinction by dividing t nera into ſpecies. Among men, for inſtance, diſtinguiſhed the Thracians, the Scythians, gyptians, and whatever nations were ſtri different in manners and habits, to whom ac ingly they aſſigned the diſtinctive phyſiogno characteriſtics. A third ſet of phyſiogno judged of the actions and manners of *the ind al*, and preſumed that certain manners proce from certain diſpoſitions. But the method treating the ſubject adopted by Ariſtotle him was this: A peculiar form of body is inva acc

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companied by a peculiar disposition of mind; a man intellect is never found in the corporeal re of a beast. The mind and body reciprocally fect each other: thus in intoxication and mania e mind exhibits the affections of the body; and fear, joy, &c. the body displays the affections the mind.

"From such facts he argues, that when in man particular bodily character appears, which by ur experience and observation has been found formly accompanied by a certain mental dispo-n, with which therefore it must have been ne-arily connected; we are entitled in all such to infer the disposition from the appearance. observations, he conceives, may be drawn other animals as well as from men: for as a possesses one bodily form and mental charac-a hare another, the corporeal characteristics e lion, such as strong hair, deep voice, large remities, discernible in a human creature, de-the strength and courage of that noble animal; e the slender extremities, soft down, and other res of the hare, visible in a man, betray the tal character of that pusillanimous creature.

Upon this principle ARISTOTLE treats of the poreal features of man, and the correspondent sitions, so far as observed: he illustrates them e analogy just mentioned, and in some in-s attempts to account for them by physiolo-reasoning.

Considering the early period in which Aristotle , his theory which is plausible, and even pro-displays his usual penetration and a consi-e degree of knowledge. He distinctly no-dividual physiognomy, national physiogno-nd comparative physiognomy. The state of ledge in his time did not admit of a com-elucidation of his general principles; on that nt his enumeration of particular observations ceepts is by no means so well founded or urate, as his method of study. Even his concise and energetic, was inimical to the ; which, to be made clearly comprehen-must require frequent paraphrases. Aristo-erformance, however, such as it is, has been as the ground-work and model of every gnomical treatise that has since appeared.

The imitators of this great man in the 16th 17th centuries have even copied his language manner, which are sententious, indiscriminate, obscure. His comparative physiognomy of with beasts has been frequently though not rsally adopted.

Next after Aristotle, his disciple and successor PHRATUS deserves to be particularly men-d as a writer on this subject.

OLEMON of Athens, ADAMANTIUS the so-and several others, wrote on the subject a-the same period. Lately there was publish-collection of all the Greek authors on physi-my: the book is entitled, *Physiognomiæ vete-riptores Græci. Gr. & Lat. a Franzio Altenb.* 8vo. From the number of these authors, it ars that the science was much cultivated in ece; but the professors seem soon to have con-ed with it something of the marvellous.

From that period to the close of the Roman public, nothing worthy of remark occurs in the literary history of physiognomy. About the last mentioned era, however, and from thence to the decline of the empire under the later emperors, the science appears to have been cultivated as an important branch of erudition, and assumed as a profession by persons who had acquired a superior knowledge in it.

"The science of physiognomy shared the same fate with all others, when the Roman empire was overthrown by the northern barbarians. About the beginning of the 16th century it began again to be noticed.—From that time till the close of the 17th it was one of the most fashionable studies Within that space have appeared almost all the approved modern authors on the subject. They are, Bartholom. Cocles, Baptista Porta, Honoratus Nuquetius, Jacobus de Indagine, Alstedius, Michael Schottus, Gaspar Schottus, Cardan, Taisnierus, Fludd, Behmen, Barclay, Claromontius, Conringius, the commentaries of Augustin Niphus, and Camillus Balbus on the Physiognomica of Aristotle,—Spontanus, Andreas Henricus, Joannes Digander, Rud. Goclenius, Alex. Achillinis, Joh. Prætorius, Jo. Belot, Guliel. Gratalorus, &c. They are noticed in the Polyhistor. of Morhoff vol. i. lib. 1. cap. 15. § 4. and vol. ii. lib. 3. cap. 1. § 4.

"About the commencement of the 18th century, and thence forward, the occult sciences, as they are termed, had declined very considerably in the estimation of the learned; and those who treated of physiognomy forbore to disgrace it by a connection with those branches of ideal learning, with which formerly it had been invariably conjoined. In Britain, Dr Gwyther noticed it with approbation.—His remarks are published in the *Philos. Transf.* vol. xviii.; and Dr Parsons chose it for the subject of the Croonean lectures, published at first in the 3d supplement to the 44th vol. of the Philos. Transactions, and afterwards (1747) in a separate treatise, entitled *Human Physiognomy explained.*

"The observations, however, of these writers, as well as of Lancisius, Haller, and Buffon, relate rather to the transient expression of the passions than to the permanent features of the face and body. The well-known characters of Le Brun likewise are illustrative of the transient physiognomy, or (as it is termed) *pathognomy.*"—See his description of the PASSIONS, under DRAWING, *Sect.* X. and XI; and his figures on *Plates* CXIX, and CXX.

"During the 18th century, (continues Mr MORISON,) although physiognomy has been now and then attended to, nothing of importance appeared on the subject till the publication of the great work of M. LAVATER, dean of Zurich, which has excited no inconsiderable portion of attention in the literary world. The author professes not to give a complete synthetical treatise on physiognomy, but, aware that the science is yet in its infancy, he exhibits fragments only illustrative of its different parts. His performance is no doubt desultory and unconnected. It contains, however, many particulars much superior to any thing that had ever before appeared on the subject. From this work we shall conclude our short article, by quoting part of the author's defence of his favourite science.

"No study, says he, excepting mathematics,

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more juſtly deſerves to be termed *a ſcience* than phyſiognomy. It is a department of phyſics, including theology and belles lettres, and in the ſame manner with theſe ſciences may be reduced to rule. It may acquire a fixed and appropriate character; it may be communicated and taught.

"Truth or knowledge, explained by fixed principles, becomes ſcience. Words, lines, rules, definitions, are the medium of communication. The queſtion, then, with reſpect to phyſiognomy, will thus be fairly ſtated. Can the ſtriking and marked differences which are viſible between one human face, one human form, and another, be explained, not by obſcure and confuſed conceptions, but by certain characters, ſigns, and expreſſions? Are theſe ſigns capable of communicating the vigour or imbecility, the ſickneſs or health, of the body; the wiſdom, the folly, the magnanimity, the meanneſs, the virtue, or the vice, of the mind?

"It is only to a certain extent, that even the experimental philoſopher can purſue his reſearches. The active and vigorous mind, employed in ſuch ſtudies, will often form conceptions which he ſhall be incapable of expreſſing in words, ſo as to communicate his ideas to the feebler mind, which was itſelf unable to make the diſcovery: but the lofty, the exalted mind, which ſoars beyond all written rule, which poſſeſſes feelings and energies reducible to no law, muſt be pronounced ſcientific.

"It will be admitted, then, that to a certain degree phyſiognomical truth may as a ſcience be defined and communicated. Of the truth of the ſcience there cannot exiſt a doubt. Every countenance, every form, every created exiſtence, is individually diſtinct, as well as different, in reſpect of claſs, race, and kind. No one being in nature is preciſely ſimilar to another. This propoſition, in ſo far as regards man, is the foundation ſtone of phyſiognomy. There may exiſt an intimate analogy, a ſtriking ſimilarity, between two men, yet being brought together, and accurately compared, they will appear to be remarkably different. No two minds perfectly reſemble each other. Now, is it poſſible to doubt that there muſt be a certain native analogy between the external varieties of countenance and form, and the internal varieties of the mind? By anger the muſcles are rendered protuberant: Are not, then, the angry mind, and the protuberant muſcles, as cauſe and effect? The man of acute wit has frequently a quick and lively eye. Is it poſſible to reſiſt the concluſion, that between ſuch a mind and ſuch a countenance there is a determinate relation?

"Every thing in nature is eſtimated by its phyſiognomy; that is, its external appearance. The trader judges by the colour, the fineneſs, the exterior, the *phyſiognomy* of every article of traffic: and he at once decides that the buyer "has an honeſt look," or "a pleaſing or forbidding countenance."

"That knowledge and ſcience are detrimental to man, that a ſtate of rudeneſs and ignorance are preferable and productive of more happineſs, are tenets now deſervedly exploded. They do not merit ſerious oppoſition. The extenſion and increaſe of knowledge, then, is an object of importance to man; and what object can be ſo important as the knowledge of man himſelf? If knowledge can influence his happineſs, the knowledge of himſelf muſt influence it the moſt. Thus uſeful knowledge is the peculiar province of the ſcience of phyſiognomy. To conceive a juſt idea of the advantages of phyſiognomy, let us for a moment ſuppoſe that all phyſiognomical knowledge were totally forgotten among men; what confuſion, what uncertainty, what numberleſs miſtakes would be the conſequence? Men deſtined to live in ſociety muſt hold mutual intercourſe. The knowledge of man imparts to this intercourſe ſpirit, its pleaſures, its advantages.

"PHYSIOGNOMY is a ſource of pure and exalted mental gratification. It affords a new view of the perfection of Deity; it diſplays a new ſcene of harmony and beauty in his works; it reveals internal motives, which without it would never have been diſcovered in the world to come. The phyſiognomiſt diſtinguiſhes accurately the permanent from the habitual, the habitual from the accidental, in character. Difficulties, no doubt, attend the ſtudy of this ſcience. The moſt minute ſhades, ſcarcely diſcernible to the unexperienced eye, denote often total oppoſition of character. A ſmall inflexion, diminution, lengthening or deepening, even though but of a hair's breadth, will alter in an aſtoniſhing degree the expreſſion of countenance and character. How difficult then, how impoſſible indeed, muſt this variety of the ſame countenance render preciſion? The real character is often ſo hidden, ſo maſked, that it can only be detected in certain, perhaps uncommon, poſitions of countenance. Theſe poſitions may be ſo quickly changed, the ſigns may inſtantaneouſly diſappear, and their impreſſion on the mind of the obſerver may be ſo ſlight, or the diſtinguiſhing traits themſelves ſo difficult to ſeize, that it ſhall be impoſſible to paint them or deſcribe them in language. Innumerable great and ſmall accidents, whether phyſical or moral, various incidents and paſſions, the diverſity of poſition, of light or ſhade, tend to diſplay the countenance often in ſo diſadvantageous a point of view, that the phyſiognomiſt is betrayed into an erroneous judgment of the true qualities of the countenance and character. Such cauſes often occaſion him to overlook the eſſential traits of character, and to form a deciſion on what is purely accidental.—How ſurpriſingly, for inſtance, will the ſmallpox diſfigure the countenance, and deſtroy or confound, or render imperceptible, traits otherwiſe the moſt deciſive?"

That there is, upon the whole, ſome truth in phyſiognomy cannot be denied. Every man feeling's direct him in a manner to practiſe it, at leaſt *tacitly*, in a certain degree, upon the firſt ſight of a ſtranger, eſpecially if there be any thing either ſtrikingly agreeable or the oppoſite in the features.—But ſhould we attempt to act by the rules of this ſcience, in our general intercourſe with mankind, we would be often groſsly deceived; and ſtill more were we to decide on a man's intellectual powers by the rules of this ſcience. In this laſt reſpect, it is affirmed, that LAVATER himſelf has fallen into very great miſtakes, notwithſtanding his long practice in the art.

PHY-

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PHYSIOLOGER, *n. ſ.* [from *phyſiology*.] One ſkilled in phyſiology. *Aſh.*

* PHYSIOLOGICAL. *adj.* [from *phyſiology*.] Relating to the doctrine of the natural conſtitution of things.—Some of them ſeem rather metaphyſical than *phyſiological* notions. *Boyle.*

* PHYSIOLOGIST. *n. ſ.* [from *phyſiology*.] One verſed in phyſiology; a writer of natural philoſophy.

PHYSIOLOGY.

Definitions *and* Division *of* Physiology.

PHYSIOLOGY is thus defined by Dr. JOHNSON:

"PHYSIOLOGY. *n. ſ.* [φυσις, and λογος; *phyſiologie*, Fr.] The doctrine of the conſtitution of the works of nature.—Diſputing phyſiology is of no accommodation to your deſigns.—The conceptions of mankind could not be accounted for from their *phyſiology*. *Bentley.*

"PHYSIOLOGY," (ſays the ingenious Dr JOHN BARCLAY, lecturer on anatomy at Edinburgh,) "is a Greek word, which, in ſtrict etymology, ſignifies that which diſcourſes of nature: but in its common uſe, it is reſtricted to that branch of phyſical ſcience, which treats of the different actions and properties of living bodies; while by living bodies are meant thoſe which are by a certain organized ſtructure enabled to grow, and propagate their kind.

"By this definition, phyſiology muſt neceſſarily have for its object the explanation of that internal organical economy in plants and animals, which nature has deviſed for the preſervation of the individual, and for the continuance and propagation of the ſpecies.

"It is naturally divided into two kinds, particular and general. The former treats of the properties and functions of the individual or ſpecies, as may be ſeen in the article ANATOMY; the latter is the ſubject of our preſent article, and treats of thoſe functions and properties, which are generally common to all living bodies.

"But of all the branches of phyſical ſcience, phyſiology certainly makes the neareſt approach to the region of metaphyſics; but yet there is a difference between, though it may not be very eaſy to point out the preciſe line of termination. Phyſiology, as already defined, is that ſcience which has for its object the organical economy of living bodies. But, wherever the economy of living bodies indicates deſign, and cannot reſult from any combination or ſtructure of organs, it muſt be ſuppoſed the effect of ſomething different from matter, and whoſe explanation belongs to that which is called *metaphyſics*, or which we might term the *philoſophy of mind*.

Introduction.

PHYSIOLOGY was long diſfigured by whimſical theories, and numerous hypotheſes were formed without any data. BELLINI of Florence diſguſted with theſe abſurdities firſt applied *mathematics* to the ſtudy of the ſcience: BORELLI, BOERHAAVE, and PITCAIRN adopted ſimilar methods. The former conſidered the muſcles as ropes, and the bones as levers, and explained the interior motions of the animal economy on the principles of mechaniſm; while the latter held geometrical demonſtration to be the only ſpecies of evidence, excepting the ſenſes, that could be relied on. The mechanic phyſiology has now ſunk into ſuch contempt, that the moſt illiterate affect to ſmile at the mention of its name; but let it not be forgotten, that it explained the ſtructure of the eye, the movement of the bone, and force of the muſcle, and that it may yet perhaps be the means of many intereſting diſcoveries in the living body. Chemiſtry now, in phyſiological inveſtigations, holds that place which was formerly poſſeſſed by geometry and mechanics. Nor is CHEMISTRY undeſerving of this rank. By the knowledge Chemiſts have acquired of ſalts and of gaſes, by their more ingenious modes of analyſis, and by ſome diſcoveries made concerning the nature of heat and of light, chemiſtry is now able to account for many phenomena, that before were inexplicable.

It is more than a century ſince it was obſerved, that plants were nouriſhed by pure water and atmoſpheric air; that from theſe alone they derived their extracts, their mucilage, their oil, their coal, their acids, their alkalis, and aroma: But ſince the diſcovery of different kinds of elaſtic fluids, it has been farther remarked, that they grow rapidly in hydrogenous gas, and in air mixed with carbonic acid; that aſſiſted by light their leaves abſorb hydrogen from water, carbon from the acid of which they are ſo fond; and, thus decompoſing the one and the other, diſengage from both the oxigenous principle, or vital air, and reſtore to the atmoſphere ſalubrity and health.

Leaving vegetables, which, by analyſis in cloſe veſſels and in red hot pipes, it has reduced to hydrogen, oxygen, azot, and charcoal, it has made diſcoveries no leſs important in the animal kingdom. It has found that the food of the nobler animals, which immediately or remotely is prepared by vegetables, is generally acted upon by a ſolvent: it has proved by experiment, that the animal organs can fix azot; can decompoſe atmoſpheric air; can form lime, iron, and carbonic acid, as well as vegetables, produce a number of ſaline ſubſtances, which no art could detect in their food. Nor is it here that ſuch diſcoveries are meant to terminate; theſe ſeemingly creative powers of vegetation and of animalization, with other phenomena in the ſtructure and economy of living bodies, chemiſtry imagines that it will yet be able to explain. We may ſafely venture, however, to predict, that ſomething more than its preſent knowledge of the various effects of heat and of mixture will in this

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cafe be found neceſſary to enſure ſucceſs. The diſcovery of elaſtic fluids and their ſingular properties affords the ſtrongeſt reaſon to ſuſpect that we yet may be ignorant of many agents which nature employs in the functions of bodies. But whatever be the truth, we are almoſt certain that theſe agents diſcovered by the chemiſt are not alone concerned. Electricity, magnetiſm, and animal electricity, muſt not be excluded from acting ſome part. The growth of plants, it is well known, is conſiderably affected by the electrical ſtate of the atmoſphere; it is ſenſibly promoted by a proper uſe of the vegeto-electrometer, (or *electro-vegetometer*; ſee ELECTRICITY, *Index*,) and has been ſaid to indicate a difference between the negative and poſitive electricities whether theſe be kinds or ſtates of the fluid. Such too is our preſent knowledge, that electricity as yet ſeems the only cauſe to which we can aſcribe the ſeeming chemical affinities of the dew; its conſtant practice in avoiding ſome bodies, its predilection for others, and particularly its attachment to the living points of plants and of leaves: nor is this electricity wholly unconnected with the animal kingdom; when we think of its ſingular fondneſs for points, it occurs that one intention of our hairs may probably have been to collect and diffuſe it. It is plainly excited in croſs rubbing the hair of ſome animals; and when we wear ſilk, it is frequently accummulated upon the ſurface of our own bodies.

The iron found in plants and in animals is certainly ſomewhat of a ſtriking circumſtance, and cannot be denied to be one reaſon why magnetiſm ſhould not be wholly overlooked.

As for ANIMAL ELECTRICITY, or what has been called ſo, it is now, we believe, generally allowed to hold an important place in the ſyſtem. It is very perceptible in all thoſe nerves which are ſubſervient to voluntary motions; nor is it limited to theſe alone. In ſeveral inſtances where metals were applied to the nerves of the heart, which nature has deſtined to ſpontaneous motions they were ſeen to awaken the dormant powers in the muſcular fibres of that viſcus. We here ſpeak only of the nerves; but the Torpedo, the Gymnotus electricus, and Silurus electricus, poſſeſs a particular ſtructure of organs for collecting this fluid, for diſcharging it at pleaſure, and for giving a ſhock. If thoſe who are accuſtomed to the common kind of electrical experiments may at firſt be ſurpriſed that this electric fluid in the animal is not diſcharged from the nerves by water, or any other metallic conductor that is pure and unmixed, another fact, which is fully as ſtriking, though it has not been hitherto mentioned by any obſerver known to us, appears to merit equal attention: Cut away the leg of a frog, uncover a part of the crural nerve, place the limb now on a table on which an electrifying machine is working, you will ſee the muſcles ſtrongly convulſed at every ſpark which you draw from the conductor, but remaining motionleſs upon the diſcharge of the Leyden phial." See *Plate* CXXXIV, *Fig.* 16 and 17.

Here it may be expected that we ſhould take notice of ANIMAL MAGNETISM, as a diſcovery in phyſiology nearly allied to ANIMAL ELECTRICITY; but this pretended diſcovery having been decided to have been a deliberate *impoſition* upon mankind, we need only refer the reader for an account of its hiſtory and detection, (to the utter confuſion of its author MESMER, and his pupil DESLON,) to our article, MAGNETISM, ANIMAL.

"The aid, (continues our ingenious author) which anatomy affords to phyſiology, is now to be conſidered. Phyſiology in general and the ſtudy of anatomy are ſo cloſely connected, that as HALLER imagined, they can hardly be ſeparated even in idea.

"The anatomiſt has obſerved, that all motion proceeds immediately from the muſcular fibre; that the muſcular fibre again derives its power from the nerve, which terminates in the fibre; that fibre and nerve, and the whole ſyſtem, are nouriſhed by the blood which comes from the heart; and that the waſte of blood is ſupplied by the lacteals, which abſorb nutritious matter from the food, as it paſſes along the inteſtinal canal. He has alſo obſerved, that the blood which is in continual motion, has a circular courſe; that other veſſels along with the lacteals are employed to abſorb; and by means of injection has ſhown the route of the different fluids as clearly in the dead as they could have been ſeen in the living ſubject. Aided by the microſcope, he has diſcovered the red globules of the blood, animaiculæ in the ſemen, and the anaſtomoſes of the arteries and veins; and when the microſcope could lead him no further, he had recourſe to chemical analyſis, and made diſcoveries equally important, in demonſtrating the bodies which compoſe the ſeveral ſtuids and ſolids.

A TABLE *of the* FUNCTIONS *or* PROPERTIES OF LIVING BODIES; *altered from* M. D'AUBENTON.

1. DIGESTION. 2. NUTRITION. 3. CIRCULATION. 4. RESPIRATION. 5. SECRETION. 6. OSSIFICATION. 7. GENERATION. 8. IRRITABILITY. 9. SENSIBILITY.

Every body, in which one or more of these functions are obſerved, is to be conſidered as poſſeſſing organization and life.

I. DIGESTION. 1. Living bodies which have one or more ſtomachs eaſily diſtinguiſhable from the œſophagus and inteſtinal canal:—Quadrupeds. Cetaceous animals. Birds. Cetaceous animals. 2. Living bodies which have a ſtomach diſtinguiſhable only by certain modifications from the œſophagus and inteſtinal canal:—Oviparous quadrupeds. Serpents. Cartilaginous fiſhes. Fiſhes properly ſo called. 3. Living bodies which have an alimentary canal, not diſtinguiſhable into œſophagus, ſtomach and inteſtines:—Inſects. Worms. Zoophites. 4. Living bodies which have neither ſtomach nor inteſtines;—Plants.

II. NUTRITION. 1. Living bodies which the nutritious juices are abſorbed by veſſels beginning from internal cavities:—Man. Quadrupeds. Cetaceous animals. Birds. Oviparous quadrupeds. Serpents.

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pents. Cartilaginous fiſhes. Fiſhes properly
nked. Inſects. Cruſtaceous animals. Worms.
Living bodies whoſe nutritious juices are ab-
ed by veſſels opening upon the external ſur-
:—Plants.

II. CIRCULATION. 1. Living bodies with
d, having a heart with 2 ventricles and 2 au-
s:—Man. Quadrupeds. Cetaceous animals.
s. 2. Living bodies with blood, with one
ricle divided into ſeveral cavities, and 2 auri-
—Oviparous quadrupeds. Serpents. 3.
g bodies with blood, with one ventricle and
uricle:—Cartilaginous fiſhes. Fiſhes proper-
called. ii. Living bodies with a whitiſh fluid;
e heart is formed of one longitudinal, veſſel,
ous and contractile, in which there is a whit-
uid inſtead of blood:—Cruſtaceous animals.
ſs. Worms. In ſome cruſtaceous animals
is obſerved ſomething reſembling a heart.
ving bodies with juices, in which no heart
t been obſerved, but only veſſels filled with
of a nature different from that of blood.
hytes. Plants.

RESPIRATION. i. Living bodies which
e, 1. By lungs free from all adheſion and
y:—Man. Quadrupeds. Cetaceous ani-
2. By lungs free from all adheſion, veſicu-
d muſcular:—Oviparous quadrupeds. Ser-
3. By lungs adhering to the ribs, and
ed with appendages:—Birds. 4. By gills
rent forms:—Cartilaginous fiſhes. Fiſhes
rly ſo called. Cruſtaceous animals. 5. By
ta or holes in different rings:—Inſects.
worms. 6. By an opening called trachea,
external fringes:—Aquatic worms. 7. By
e:—Plants. ii. Living bodies in which
have been diſcovered neither ſtigmata nor
e:—Polypes.

SECRETION. Living bodies. There are
ies in which ſecretions are not carried on.

OSSIFICATION. i. Living bodies, whoſe
n is, 1. Internal and oſſeous:—Man. Qua-
ds. Cetaceous animals. Birds. Oviparous
peds. Serpents. Fiſhes properly ſo call-
Internal and cartilaginous:—Cartilaginous
3. External and corneous:—Perfect in-
Lithophytes. 4. External and cretace-
—Cruſtaceous animals. Shell fiſh. Madre-
The greateſt part of zoophytes. 5. Ex-
and ligneous:—Plants. ii. Living bodies
have no ſkeleton:—Inſects in their firſt
Worms. Polypes.

GENERATION. i. Living bodies, which
Viviparous:—Man. Quadrupeds. Ceta-
animals. 2. Oviparous, whether the evo-
of the eggs takes place within or without
male:—Birds. Oviparous quadrupeds. Ser-
Cartilaginous fiſhes. Fiſhes properly ſo
Inſects. Cruſtaceous animals. Worms.
ii. Living bodies which propagate by
—Worms. Polypes. Plants.

III. IRRITABILITY. 1. Living bodies which
e a body muſcular or contractile:—Greateſt
t of inſects in the firſt ſtate of their transfor-
tion. Worms. Polypes. 2. Living bodies
ch have muſcles covering the ſkeleton:—
n. Quadrupeds. Cetaceous animals. Birds.
iparous quadrupeds. Serpents. Cartilaginous
fiſhes. Fiſhes properly ſo called. 3. Living bo-
dies which have a ſkeleton covering the muſcles:
—Perfect inſects. Cruſtaceous animals. 4. Li-
ving bodies, which have no muſcular power; no
ſpontaneous movements:—Plants.

IX. SENSIBILITY. 1. Living bodies, which
have nerves and brain eaſily diſtinguiſhable from
the ſpinal marrow:—Man. Quadrupeds. Ceta-
ceous animals. Birds. Oviparous quadrupeds.
Serpents. Cartilaginous fiſhes. Fiſhes properly
ſo called. 2. Living bodies, which have nerves
and brain ſcarcely diſtinguiſhable from the ſpinal
marrow:—Inſects. Cruſtaceous animals. Worms.
3. Living bodies, in which there have not yet
been diſcovered nerves or brain, or ſpinal mar-
row:—Zoophytes. Plants.

The above table, which has its diviſions mark-
ed by the functions, and their kinds and varieties
by the kinds and varieties of thoſe organs by
which they are performed, differs conſiderably
from a zoological. Borrowing its ſeveral marks
of diſtinction from internal characters, it more
clearly demonſtrates the difference between the
mineral, vegetable, and animal, than any ſyſtem
that attempts to arrange by outward appearan-
ces.

No minerals, whatever be their forms, or the
regularity and beauty of their figures, were ever
ſaid to poſſeſs any thing like organs of nutrition;
and however frequently ſome may recover their
loſt ſhapes, they are never ſuppoſed either to
produce, or aſſiſt in producing, their own kind
by generative powers. And no plants, however
much may be ſaid of animals that want a nervous
ſyſtem and a heart, and are fixed, without the
power of loco-motion, to one place; we ſay, no
plants, though ſome may repreſent a few of the
ſimpler effects of ſenſation, and others may be
free to float through the ocean, were ever ſaid to
diſcover any ſigns of voracity, to poſſeſs any thing
reſembling a ſtomach, to diſtend their body by
ſwallowing their food, to apply their food to the
mouths of abſorbents opening internally; and,
when the nutritious juices were extracted, to eject
it *in cumulo*. It has been ſaid that zoophytes pre-
ſent ſimilar phenomena. One half of their name
would imply that they are animals, and another
half would inſinuate that they are plants. D'-
Aubenton reaſons with clearneſs on this ſubject.
True, ſays he, the greateſt part of them are
branched like plants, and like plants are compoſ-
ed of concentric circles. Some have a ſoft exte-
rior ſubſtance which is called bark, and a hard
interior which is called wood. Along their
branches, and at their extremities, they put forth
veſicles which reſemble buds; and when a part
falls from the whole, it is ſufficient, like a vegeta-
ble ſlip, to produce a zoophyte; but do theſe ap-
pearances prove that they are plants?

After thus endeavouring to point out the boun-
daries between the mineral, the plant, and the a-
nimal, we now venture on a rude ſketch of the
order and manner in which theſe properties may
be explained, and in which the facts in general
phyſiology may be afterwards arranged.

Without blaming the arrangement of D'Azyr,
whoſe genius and labours we reſpect, we have
been induced to adopt the following, from thoſe
reaſons

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reasons with which the reader is now to be acquainted.

Attending minutely to a living body, which already has escaped from the seed, the egg, or membranes of the parent, which is wholly disengaged from the placenta, and depends for the future on the operations of its own organs, we may observe, that in order to live, it must be allowed the free use of air, as applied by the organs of—*Respiration*.

That, in order to grow, it must have likewise a supply of food, which is a substance somehow adapted to its constitution; and which, on being received into the system, is Prepared by—*Digestion*, Taken up by—*Absorption*, Distributed by—*Circulation*, Assimilated by—*Nutrition*, And the whole carried on by means of—*Secretion*.

We next may observe, that to enjoy the free exercise of these functions, it must be secured from the more common and external injuries of its situation; and that this is done by certain integuments originally produced, and, when it is necessary, afterwards renewed by that function; which, till we receive a new nomenclature, we shall venture to call by what may be rather an uncouth word—*Integumation*.

We again perceive, that these functions are all dependent on a general principle—*Irritability*: By which the system is rendered by stimulants susceptible of—*Motion*; Accommodates itself to different circumstances by means of—*Habit*; Alters its shape by successive—*Transformation*; Produces the species by—*Generation*;

And when the business of life is finished, is, after many a languid affection from the influence of—*Sleep*, At last subjected to the general fate of all living bodies—*Death*.

These we imagine are the general properties of living bodies; and such is the order in which we are now to take a short and cursory view of them.

Sect. I. *Of* Respiration.

Respiration is that function by which air is brought into the system, and by which it is prepared in particular organs, that in some respect succeed the placenta in the general economy. For, as any interruption of the usual intercourse between the placenta and fœtus in ovo proves soon fatal; so, when that communication naturally ceases, and the new one succeeds between the lungs and external air, it is likewise found, that any preternatural interruption of this last is in all living bodies presently attended with various symptoms of increasing languor, and in many with an almost instantaneous death.

So essential is respiration to the system, that snails, chameleons, and some other animals, can live for years upon air alone. We have seen a chameleon that lived and was vigorous for 22 months without any food, and which might have continued to live much longer but for an unfortunate bruise by a fall.

Other phenomena equally demonstrate the importance of air to the living body. The frog leaps away wanting its heart; it survives the loss of the greatest part of its spinal marrow. Without its head, it lives for some days, and its heart continues to circulate its blood. Spallanzani took one from the back of a female, cut off his head, and, after performing this whimsical experiment, saw the gallant return to his mistress, grasp her in his arms, and finish the task which he had begun. And Borelli found, that eels and serpents, though their bodies be opened, and the whole of their viscera be taken out, are able to move for a day after; and yet, notwithstanding, in all these animals, the life is observed to be suddenly extinguished when the all-vivifying air is excluded. Even the smallest insect has died, and the plant lost its vegetative power, when retained for a while in a vacuum. The fish itself, when placed under the exhausted receiver, has started anxiously to the surface of the water in quest of air; and, finding none, has sunk to the bottom and expired in convulsions.

To this general dependence of life upon respiration there occur but few things like an exception; these are, some serpents and worms, the crustaceous animals found alive in the hearts of stones, some insects that were found in wood, and a number of toads which in different places have been taken from the hearts of trees and of rocks where they left an impression, and where they were supposed in some cases to have lived for centuries without air. These facts, real or pretended, have been the cause of much speculation. Some philosophers doubt the facts. Others, receiving the facts as sufficiently authenticated, have studied how to account for them, by various hypotheses.

Experiments must tell what are the laws which nature has here prescribed to herself. Insects eggs, when covered with varnish, or placed under the exhausted receiver, are secured against the attacks of corruption. Bomare, in his Dictionary, has mentioned three, which, protected from air, were found fresh in the wall of a church after a period of 300 years. And if it be true that a snake found in a block of marble died as soon as exposed to the air, or if the parts in contact with air be the only ones which in torpid animals appear to be changed, it would seem probable that a total exclusion of this varying and active element would tend more to the preservation of torpid animals, in certain instances, than a free admission, which, in those cases where all vital functions have ceased, is regularly found a principal agent in their dissolution.

M. Heriſſant, of the French Academy, was the first philosopher who, by means of experiment, thought of interrogating Nature herself upon this subject. On the 21st of February 1771, he with great accuracy shut up three toads from the earth, two of which were taken out alive on the 8th of April 1774. D'Aubenton says, after a period of 18 months; but in this instance we depend merely on the friend of Fontana, who has mentioned the dates. The two toads were again inclosed, and Heriſſant died before there was a second inspection. D'Aubenton says, that when taken out their bodies were hard and shrivelled, and that the whole moisture totally absorbed. A fourth toad that had been inclosed was heard to croak when ever the box in which it was confined happened to be shaken. Since that period the practice is common

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common of confining snails in a sealed phial, where they exist in torpor for years.

These phenomena still excite wonder; but to wonder less, and examine more, would sooner procure us that information which we are wanting.

Leaving, therefore, the torpid state as one of those subjects with which we at present are little acquainted, and of which we therefore cannot speak with certainty in the general abstract language of science; it will naturally be asked, In what respect is air so necessary to all living bodies in their active state, and how contributes it to the regular performance of the different functions?

The moderns, who, after all their researches, have been unable to discover this vital spark of the ancients, are more puzzled to assign an adequate cause for the heat than for any cold which they discover.

Of animal heat, the most rational theory, we think, properly belongs to the last century; it is confirmed by modern discoveries, and has ascribed this heat to respiration. Many had observed, that those animals which respire most, have the warmest blood. Lower demonstrated, that this blood received a new and a brighter colour in passing through the lungs. Verheyen and Borelli both proved, that the air lost something by coming in contact with that organ. Mayow showed, that this something which the air loses is contained in nitre. Experience taught the workers in fire, that this something was absorbed from the air: and Verheyen remarked, that it is also absorbed by the lungs, and is probably that which maintains combustion; which qualifies the air for being support to animal life, and imparts to the blood the vermilion colour.

How well the whole of this reasoning was founded, is proved by the late discoveries of Priestley and other chemists. There is now obtained, in a separate state, an aerial fluid, which contains both life and combustion, and gives a vermilion colour to the blood. It is extracted in very large quantity from nitre; is one of the component parts of the atmosphere, and the vivifying principle of that element; without which, in all animals, life is extinguished. It was called dephlogisticated air by Priestley, the first discoverer; as the great acidifying cause in nature, the French nomenclature has given it the name of *oxygenous gas*; and, as one of the causes on which animal existence both of fire and of life depends, it is named *empyreal* or *vital air*.

Late discoveries have shown farther, how this air may in respiration produce heat. From the most accurate investigations, it appears, that caloric, or the principle of heat, is a distinct substance in nature; that it combines with different bodies in different degrees; that it is the cause of fluidity in all; and that, in proportion to that capacity which they have for it, and to that distance at which they are removed from the fluid state, the more or less caloric they contain. Aeriform bodies being all, therefore, exceedingly rarified, it must be evident, that when they are fixed or condensed in the blood, and made to approach nearer solidity, a quantity of heat must be evolved. A part of this is very plainly evolved in the lungs where the air is absorbed, as appears by the breath; and a part evolved by the action of vessels, as appears from nearly an equal heat over the system, from the partial heat of a morbid part, and the sudden transition from heat to cold, and from cold to heat, over the surface, when the vessels are affected by either internal or external stimuli. When the heat, thus evolved by the gradual fixation of that body with which it was combined, has been successful in making its escape by the lungs and integuments, the blood returns in a dark and a sluggish stream by the veins, and mingles again with the genial fluid, which before gave it spring, activity, and life.

Of that oxygen which remains in the system, part is employed in forming different saline combinations and supplying the waste occasioned by that constant reabsorption; which, from many experiments that have been made with solutions of matter, is known to take place in the solid bones. The use of that oxygenous gas which returns with the breath, is best understood after knowing its affinities. Its basis oxygen, combining with hydrogen, which is the basis of inflammable air, forms water; and, combining with carbon, the carbonic acid. It carries, therefore, back with the breath a part of the carbon, produced by the slight combustion of the blood, and a quantity of hydrogen arising from the watery fluid decomposed.

But oxygenous gas does not alone enter the lungs. Of 100 parts of the atmosphere, but 28 are oxygenous gas, $\frac{1}{100}$ is carbonic acid, and 72 are azotic gas. These last, though intended chiefly for other beings different from man, which are in immense numbers on the globe, but which, like him and the nobler animals, are not formed to breathe the empyreal air, must notwithstanding be of some important and essential use to all living bodies. It has accordingly been found by experiment, that pure and unmixed oxygenous gas cannot be breathed for any very considerable time without danger; that some azot is contained in the blood, and has been extracted from the muscular fibre, when properly treated with the nitric acid. According to Bertholiet, five of its parts with one of hydrogen form ammonia or volatile alkali; which dispels the glandular tumours of the body, and prevents the coagulation of blood, and the thickening of mucus which arise from acids. The azotic gas may therefore in part unite with hydrogen, may prevent the coagulation of serum, the catarrhous formation of viscid mucus, and many combinations that oxygen might form, injurious to the system. The carbonic acid, which is $\frac{28}{100}$ of carbon, and $\frac{72}{100}$ of oxygen, may also be necessary in regulating the effects of the other two. In aerated water, its uses are very generally known: it allays the pain of the urinary bladder when excited by calculus; it has been employed in the cure of wounds, and been thought useful in the pulmonary phthisis. It is generated in the lungs of those animals which respire oxygen. In small proportions it favours the growth of the vegetable tribes. These readily decompound it; and, with the addition of other

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ther prepared oxygen from water, reſtore what is pure to the general maſs of the vital fluid, that plants and animals may thus live by the mutual performance of kind offices.

Every theory that pretends to account for ANIMAL HEAT, ought alſo to account for that ſingular equality of heat which the ſyſtem preſerves, or endeavours to preſerve, in different temperatures. The ingenious Dr Barclay explains it ſimply in the following manner, from the above theory:

"Venous blood, if expoſed to the air, is known to abſorb a portion of oxygen, and aſſume that colour which it has in the pulmonary veins and aorta. Suppoſe an abſorption of a ſimilar kind taking place in the lungs, a fact which may be proved by deciſive experiments; it is plain that the oxygen by this abſorption muſt recede from its gaſeous or fluid ſtate; that a quantity of heat muſt be therefore evolved, which, along with the heat of the refluent blood, is carried away by that vapour which iſſues from the lungs. In the courſe of circulation, the oxygen will naturally incline with the hydrogen to form water; it will tend likewiſe to the formation of many other compounds; and, as it enters into new ſtates, and is farther removed from gaſeous fluidity, it muſt ſtill be giving out a portion of heat. If the ſurrounding temperature be cold, this ſeparation will be eaſily effected. The caloric will, in that caſe, be greedily abſorbed from the interior ſurface of the lungs and exterior ſurface of the whole body. The oxygen, meeting with the neceſſary temperature, will readily paſs into new forms; and the venous blood, returning to the lungs, will demand a ſupply which will be either greater or leſs according as the cold, by favouring the eſcape of the caloric, and promoting new combinations with oxygen, had removed it from the point of uſual ſaturation.

"The gradual evolution of heat is a proof that the temperature muſt be ſometimes reduced, before the oxygen can properly enter into all the uſual combinations of the ſyſtem. Suppoſe the body then to be placed within a hot circumambient atmoſphere. This atmoſphere, if warmer than the animal, will be more apt to part with heat than to receive it; and the oxygen abſorbed, being thus unable to diſpoſe of its caloric, will be prevented from paſſing into thoſe combinations and forms where heat is evolved. The venous blood will therefore conduct it back to the lungs, and make a demand for a new ſupply; but proportionally leſs according as the hot circumambient air, by preventing the eſcape of the caloric, and the uſual facility of new combinations, has confined its removal to a ſmaller diſtance from the point of ſaturation.

"In this laſt caſe the thing principally entitled to notice, is a very curious effort of nature to reſiſt the growing increaſe of heat. In the warm atmoſphere, as during violent muſcular exertion, the exhaling vapour is commonly diſcharged in a greater quantity from the ſurface of the body; and conſequently the heat furniſhed with an excellent temporary conductor, that in ſome meaſure counteracts the dangerous effects from without."

But all living bodies are not ſupported by the ſame kind of aerial food. Oxygenous gas has indeed been honoured with the flattering appellation of *vital air*; and nitrogenous gas been uſually diſtinguiſhed by that degrading epithet *azotic*; a word which ſignifies *deſtructive of life*. But though man, and all the warm-blooded animals that have yet been examined, may die in reſpiring the nitrogenous gas, this gas however, which conſtitutes more than two thirds of the whole atmoſphere, may in general be called the vital air of the vegetable tribes, and of not a few of the orders of inſects which thrive and live in it. For while man, and others which reſpire as he does, emit both the hydrogen and carbon, and retain the nitrogen not ſenſibly diminiſhed; moſt vegetables and many inſects eagerly inhale them, and emit oxygen as noxious or uſeleſs. Theſe facts are the indications of a radical difference in conſtitution. Even the fibres of thoſe living bodies which exhale oxygen, will, after death, attract it ſo powerfully, as to decompoſe the nitric acid; but thoſe bodies which inhale nitrogen, have a very weak an affinity to oxygen, and ſo ſtrong a one to ſome of the bodies with which it is combined, that they can eaſily decompoſe water and carbonated air.

What fiſhes reſpire is not aſcertained. Neither the change of the air, nor of the water which they occaſion when in cloſe veſſels, have, ſo far as we know, been fully examined. Chaptal aſſured, that, like other animals, they are ſubject of the action of all gaſes. Fourcroy ſays, that they do not generate the carbonic acid, and that the air which Prieſtley and he found in the air veſſels of carp was nitrogene gas. Their thermometer of heat is ſo low, that in D'Aubenton's table they are reckoned among the cold blooded animals. The temperature of plants is ſtill lower. The heat of a tree which the very ingenious Dr Hales examined, though ſeveral degrees above that of the atmoſphere when below the 56th degree of Fahrenheit, was always ſeveral degrees below it when the weather was warm. When taken out, the ſap was obſerved to freeze at 32°, while the tree it would not freeze below 47°. The very profuſe perſpiration of vegetables greatly moderates the heat in their ſurface; and as air when it abſorbs moiſture expands, and becomes thereby ſpecifically lighter, there is a regular current produced, and evaporation rapidly promoted by the denſe air diſplacing the rarefied.

The heat which is developed in all living bodies, is proportioned to the quantity of matter which is by means of the vital powers reduced to a ſtate more nearly approaching ſolidity; to the kinds of the ſubſtances which are reduced, and to the degrees and kinds of the reduction. In all living bodies there are certain degrees of heat, peculiarly fitted for carrying on their various economical operations. What theſe are, in the different kinds of plants and animals, is not known. The bat, the hedge-hog, the dormouſe, and the bat, are probably not digeſt when reduced to 70°, 75°, 80°. The frog, however, will digeſt at 65°; the birch before it arrives at 47°. Reſpiration, beſides imparting aerial food, ſeems intended to regulate thoſe different degrees of heat. It re-

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ne heat after a meal; it ſuffers it to fall in the me of ſleep; it withdraws the ſupply when the tmoſphere is warm, and increaſes it again when old. Therefore heat merely is not the ob-ct ſolely aimed at in reſpiration. All living bo-ies have their congenial degrees of heat. The gulation of theſe is important: on the one ſide, prevents the diſſipation, on the other, the coa-ulation, of their fluids; it preſerves the living ower of their organs; and, by a natural and pro-r temperature, aſſiſts their action in mixing, mpoſing, decompoſing, and preparing the diſ-rent parts for ſecretion, excretion, abſorption, bſorption, and aſſimilation. But the whole of e heat is not evolved in the lungs, nor the whole t is evolved diſengaged from air. And the ole of the air does not enter by the lungs; ich is contained in the liquid and ſolid parts of e food. It is extricated often in the proceſs of eſtion; and, when the organs are vigorous and althy, is made ſubſervient to the general econo-y. If the organs, however, ſhould happen to be gnid, it ſcorns their authority, which cannot be orced; from being friendly, it ſoon becomes mical to the ſyſtem, and threatening danger, ac-mulates not only in the ſtomach and inteſtines, t in other cavities. It has been found in the ular membrane; in certain veſicles formed for ſelf; in the uterus, in an abſceſs; and in gun-t wounds: it has ſometimes burſt from the va-a with a ſort of noiſe. And in a nephritic plaint of a horſe, it has been found flowing in eam from what the farriers call the *ſtrath*.

e have now to inquire, what are the kinds of ratory organs, and in what manner their ctions are performed? The preceding table s in ſome meaſure made us acquainted with this ject. Some animals breathe by a trachea and ngs; inſects, by either ſtigmata, or tracheæ, ning into air veſſels; plants, by air-veſſels and es; fiſhes, and numbers of the watery element, ey do not breathe, at leaſt receive air by their th: the fœtus in ovo, the polypus tribe, and y more organized bodies, by the ſame organs ich convey their food. The abſorbents appear be the firſt and moſt general way by which li-g bodies are ſupplied with air: the mouths of e veſſels are like ſmall tubercles; ſcattered o-r the body of the inſect while wrapt in its mem-ane. In the horſe and the bird they are blood-ſſels ſpreading on a membrane, and deriving ouriſhment from the uterus or egg, that had en itſelf nourished by abſorbents. In a cow, ey are veſſels which, ſpreading on a membrane, minate in glands; theſe glands being oppoſite thers which adhere to the uterus; and the embranous and uterine glands, when in con-t, incloſing a third gland like a kernel. In man, ey are veſſels ſpreading on a membrane, and en-ring a large glandular body called the *placenta*, the mouſe and the hare, they are likewiſe veſ-ls branching on a membrane and entering a lacenta; this placenta, when fixed, receives large ins from the parent, and which may be either flated or injected from the cavity of the ute-us.

What are properly reſpiratory organs exerciſe not their function till circulation and nutrition are begun. Not only are the reſpiratory organs thus late in exerciſing their functions; in many vegeta-bles a great part of them is annually renewed, and laid aſide in the torpid ſtate. In thoſe inſects which undergo the moſt remarkable kinds of tranſformation they ſuffer a change; and in all thoſe animals which ſpend their earlier days in the water, and afterwards come to live in the air, they are altered in kind. In all living bodies the proper function of one part of the reſpiratory or-gans is, to ſecrete from the water or air that par-ticular aeriform fluid which mingles with their juices, and which is neceſſary to life and nutrition. In many caſes theſe organs are placed externally, and are always in contact with the air or water from which they ſecrete. In other caſes they are lodged internally; and air or water are then al-ternately admitted and expelled by varieties of organs which ſerve as auxiliaries.

Vegetables ſecrete their aeriform fluid from wa-ter and air. They receive air along with the li-quids of their abſorbents, which open on the roots, the trunk, and the branches, and upon the inferior ſurfaces of leaves; or, if nature has plun-ged theſe leaves under water, the abſorbents open and imbibe their fluids on both ſides. In many, however, the upper ſurface of the leaf is intended to inhale air. As it is proved by Ingenhouſz and others, that the reſpiration of many leaves is aſ-ſiſted by light, we ſee a reaſon why plants grow-ing in a dark room turn to the place where light is admitted; why the flowers and the leaves of many plants follow the diurnal courſe of the ſun; why the branches of trees, which require much light, die when placed in a thick ſhade; why moonſhine in autumn contributes ſo much to the ripening of grain; and why leaves and branches are arranged in ſuch a manner as leaſt to intercept that quantity of light which nature has allotted to the genus of each.

The air-veſſels in the body of plants are thoſe veſſels which contain juices but at certain times, and which during the greateſt part of the ſeaſon are filled with air. This air is collected from the ſap of the roots as it paſſes along the diametral inſertions, and from thoſe veſſels which open up-on the trunk and upon the leaves. Like pulmo-nary tubes, which are ſeen branching through the bodies of inſects, they perform an office ſimilar to that of the trachea and bronchia; and are thoſe general receptacles of air from which the neigh-bouring parts of the plant ſecrete what is needed. The air veſſels are ſurrounded by thoſe which contain a liquid during the whole time of the growth. They are the largeſt veſſels of the wood, as diſtinguiſhed from the bark; and in the leaves they may ſometimes be ſeen even without the aſſiſt-ance of glaſſes. Their cavity is formed by certain fibres which wind ſpirally like a cork-ſcrew. In the leaf they generally approach and recede like the filaments of nerves; but they never inoſculate from one end of the plant to the other, except at the extremities.

The reſpiratory organs, which are ſimilar either to the gills of fiſhes or the lungs of man, can hardly here claim a deſcription, as their nature and forms are ſo generally known. There is one circum-ſtance, however, in birds which we muſt notice:

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the cells of their bones, and the numerous veſicles of their ſoft parts which communicate with the lungs, have been deſervedly a matter of ſurpriſe to moſt phyſiologiſts. In accounting for their uſe, the ingenious HUNTER ſuppoſed that they leſſened the ſpecific gravity and aſſiſted flying; that being the circumſtance which he thought moſt peculiar to birds. Learning afterwards that they were in the oſtrich and not in the bat, he ſuppoſed that they were appendages to the lungs. In amphibious animals, in the ſnake, viper, and many others, he obſerved, that "the lungs are continued down through the whole belly in the form of two bags, of which the upper part only can perform the office of reſpiration with any degree of effect, the lower having comparatively but few air-veſſels." In theſe animals, the uſe of ſuch a conformation of the lungs was to him evident. "It is in conſequence of this ſtructure," ſaid he, "that they require to breathe leſs frequently than others." From this reaſoning he inferred, that the motion of flying might render the frequency of reſpiration inconvenient; and that a reſervoir for air might therefore become ſingularly uſeful. The bat and the oſtrich, however, are here as formidable objections as before. The bird reſpires frequently when at reſt, and when it flies to our boſom from the hawk; that frequency ſeems to have been increaſed by what is a general and a common cauſe, an increaſed degree of muſcular exertion. This great phyſiologiſt was not aware that the circumſtance moſt peculiar to birds was not their act of flying, but their feathers, which contain a large quantity of air, and which require a regular ſupply, whether they ſoar on the wings of the eagle, or remain on the ground attending the oſtrich. Both in amphibious animals and birds, the air of the veſicles has paſſed the reſpiratory ſurface of the lungs. In the tracheæ of plants, and the pulmonary tubes and veſicles of inſects, it is only proceeding on its way to be reſpired.

From the general diffuſion of air through the birds, and the ſituation of their veſicles beyond the lungs, it would appear that the pulmonary viſcus in theſe animals does not reſpire or ſecrete air for the whole ſyſtem; and we are certain that in plants and inſects, moſt parts reſpire the air for themſelves, and that there is no particular part appointed to ſecrete air for the whole. We here ſpeak of reſpiratory organs, as thoſe which ſecrete an aeriform fluid from water and air; but our language probably had been more accurate had we called them the organs in which an aeriform fluid is abſorbed by their liquid contents, as theſe flow by, either wholly or in part, in their courſe through the ſyſtem. It was long denied that any abſorption of the air took place from the pulmonary ſurface. Borelli, however, endeavoured to ſhow air in the lungs might mingle with the blood, and how ſome always diſappeared in reſpiration. There are few doubts now entertained on this ſubject. Venous blood incloſed in a bladder by the celebrated Prieſtley diſcovered ſuch an attraction for oxygen, that it abſorbed the aeriform fluid through all the coats of the reſiſting medium, exhibiting an inſtance and beautiful illuſtration of the chemical affinities which take place in this function.

There are two kinds of *reſpiratory organs*, which, though ſometimes included in the general expreſſion, ſhould always be conſidered as perfectly diſtinct. The firſt kind comprehends thoſe in which the water and the air are decompoſed; the ſecond, thoſe by which theſe fluids are properly applied to the reſpiring ſurfaces of the former. We obſerve theſe laſt in the fluttering motion of the leaf itſelf, or in that tendril which turns the ſurface of the leaf to the ſun. We ſee them producing theſe oſcillatory motions in the branching gills of the *pulex arboreſcens*. When the breathing ſurface is within the body, we diſcover them again in the tracheæ of plants, whoſe cavity is formed by a ſpiral fibre that is ſeemingly intended for ſome kind of periſtaltic motion. We detect them likewiſe in the pulmonary tubes, in the ſpiral rings, and in the abdominal movers of inſects. We ſee them in fiſhes ſwallowing water and propelling it onward through the ſurfaces of the gills. In the frog, we note them by the motions of the pouch between the ſternum and the lower jaw. After this animal is divided tranſverſely behind the fore legs, this pouch continues to fill and to empty itſelf downwards by the tracheæ where the lungs were. When the integuments and ſome of the muſcles between the jaw-bone and ſternum are removed, we ſee the pouch was dilated and contracted by a long cartilage connected with the trachea, and attached by muſcles to the indſie of the ſternum and neighbouring parts. When the pouch is raiſed, the air ruſhes in through the two noſtrils that time expanded; and when it is contracted the glottis ſtarts up with an open mouth to the middle of the pouch, and the air is preſſed down through the tracheæ to the lungs. This action ſight will ſometimes continue for a whole In man and all the warm-blooded quadrupeds thorax or cavity where the lungs are placed lated and contracted by the diaphragm and cles attached to the ribs. In the time of tion the glottis opens, as we ſee in birds air ruſhes in, ſupports the incubent weight atmoſphere, and enables the thorax to wider. The expanding powers having laſt their uſual effort, their antagoniſts exert their force, and the air is expelled.

The heat of the lungs expands the air as as it enters. The air rapidly abſorbs moiſ and though not uſually remarked by Phyſiologiſts, yet the ſudden expanſion, which is the conſequence of that abſorption, is a very neral phenomenon in nature. By this heat abſorption, the air would occaſion greater tation, were it not for the lungs, which co the cartilages of the ſternum, which recoil the ſtretched-out muſcles, which either ſpo ouſly, or directed by the will, contract and duce expiration.

Having thus ſeen how the air ruſhes in opening the glottis, we may conceive how ſhutting of the glottis will reſiſt the force of nal expanſion, and ſupport a weight laid upon breaſt. The confined air will expand equally all ſides, and the preſſure muſt be great before ſpace which falls to the glottis can exceed its muſcular force and the weight of the atmoſph

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t is this diffuſed preſſure of fluids that produces ch ſtriking wonders in hydraulics; and which plains how the droppings of the ureters ſhould pand the bladder even to a palſy, and over- me the abdominal muſcles.

Various hypotheſes have been invented, to ac- nt for the action of thoſe organs which ſerve auxiliaries in reſpiration, but all derived from ch limited views of the ſubject, that no de- te theory can be drawn from them. But it is timate for man that theſe aſſiſting reſpiratory ans are in ſome meaſure ſubject to his will. his ſubjection he produces vocal ſound when eaſes, divides it into parts, varies it by tones, s it into words, and enjoys all the diſtinguiſh- and innumerable advantages derived from lan- ge, oratory, muſic, and in a word *ſcience* in neral.

SECT. II. *Of* DIGESTION.

THE function of digeſtion ſucceeds reſpiration by ing continuing or ſupporting the growth of the ng body. It depends on reſpiration for a por- of heat, and is that function by which the li- d and ſolid food undergoes its firſt preparation the ſyſtem. Though gaſeous fluids, including principles of heat and light, may nouriſh and poſe the ſubſtances of all living bodies, yet a only can enter the ſyſtem in a gaſeous ſtate. part is changed by the lungs, or by thoſe s, which they contain. The organs of di- n, before they can act on aerial bodies, muſt them reduced to ſome new form. For the of vegetables, this form requires to be water, ch 100 parts conſiſt of 84 of oxygene and of hydrogene. See WATER. When the have paſſed through both the watery and ve- ble ſtates, they, as juices or ſolids, become the of many animals.

ſe animals produce new changes, and by preparation the gaſes become the food of o- which are called *carnivorous*; and then the ivorous and all living bodies, when the vivi- principle has ceaſed within them, and when are haſtening to a ſtate of diſſolution, are ured by others who feed on corruption, are y converted into water and gas, and become their turn the food of the kinds on which they fed.

t has long been obſerved, that thoſe animals ch are not carnivorous feed upon plants; and, ce the days of Van Helmont and Boyle, it has n ſuſpected that plants live upon water and This ſuſpicion has now been confirmed by erous experiments. Plants have been raiſed diſtilled water without earth, and, inſtead requiring a vegetable mould, have ſpread their ts in moſs, in paper, in cotton, in pieces of th, in pounded glaſs, and powder of quartz. om theſe facts, the ingenious CHAPTAL ſup- es that ſoils act, but as ſo many ſponges, af- ding water in different proportions, and in dif- ent ways, and that all that the plant wants om the ſoil is a firm ſupport, a permiſſion to ex- d its roots where it chooſes, and that propor- ned ſupply of humidity which will ſecure it a- inſt the alternatives of being inundated or dried . The late Dr John Brown was of the ſame opinion, 25 years ago. To anſwer, however, theſe ſeveral conditions M. Chaptal ſays it is ne- ceſſary in many caſes "to make a proper mixture of the primitive earths, as no one in particular poſſeſſes them." On theſe accounts a ſingle earth cannot conſtitute manure, and the character of the earth intended to be meliorated ought to be ſtudied before the choice of any addition is decided on. The beſt proportions of a fertile earth for corn are three 8ths of clay, two 8ths of ſand, and three of the fragments of hard ſtone. "The advantages of labour conſiſt in dividing the earth, aerating it, deſtroying uſeleſs or noxious plants, and converting them into manure by facilitating their decompoſition."

"Before we had acquired a knowledge of the conſtituent principles of water," reſumes Chaptal, "it was impoſſible to explain or even to conceive the growth of plants by this ſingle aliment. In fact, if the water were an element, or indecompoſable principle, it would afford nothing but water in entering into the nutrition of the plant, and the vegetable would of courſe exhibit that fluid only; but when we conſider water as formed by the combination of the oxygenous and hydrogenous gaſes, it is eaſily underſtood that this compound is reduced to its principles, and that the hydrogenous gas becomes a principle of the vegetable, while the oxygen is thrown off by the vital forces. Accordingly we ſee the vegetable almoſt entirely formed of hydrogen. Oils, reſins, and mucilages, conſiſt of ſcarcely any thing but this ſubſtance; and we perceive the oxygenous gas eſcape by the pores where the action of light cauſes its diſengagement."

The leech and the tadpole are alſo nouriſhed by water, and many animals have no other food. "RONDELET cites a great number of examples of marine animals which cannot ſubſiſt but by means of water, by the very conſtitution of their organs. He kept during three years a fiſh in a veſſel conſtantly maintained full of very pure water. It grew to ſuch a ſize, that at the end of that time the veſſel could not contain it. The red fiſhes which are kept in glaſs veſſels are alſo nouriſhed, and grow, without any other aſſiſtance than that of water properly renewed."

As all plants are fed on nothing groſſer than liquids, we ſee the reaſon why they are all nouriſhed by abſorbents, and why, inſtead of one common alimentary canal, they are furniſhed with a number of capillary veſſels, which by their action aſſiſt the living power in moving the fluids along the trunk, the branches, and the leaves. Theſe fluids move between the different ligneous circles, and the more copiouſly as the wood is younger or the nearer the circles are to the bark. In the circles themſelves, it has been remarked that the ſap-veſſels, from being empty during a great part of the growing ſeaſon, have been called air-veſſels; that they are formed of ſpiral fibres, adapted to ſome periſtaltic motion: and it is plain, that by this ſtructure they are well fitted to propel their contents, whether water or air, upwards or downwards, backwards, or forwards, according to the different poſitions of the plant. Beſides the particular action of the veſſels, a general concuſſion is received from the movement

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of the waters or winds, which ſerves as an exerciſe; a general dilatation is occaſioned by both moiſture and heat; and a general contraction by dryneſs and cold, which produce a motion ſomething ſimilar to that of the thorax.

In ſpring the ſap aſcends through the empty veſſels before the leaves appear. When the veſſels are filled through their whole extent, the buds ſwell, the leaves ſpread, and the flowers blow; the evaporation from the ſurface is increaſed; the ſap is diminiſhed by the abſorption; the ſucciferous veſſels now ceaſe to bleed; and the roots being unable to ſupply the waſte, the rains and the dews enter by the trunk, the branches, the leaves, and the petals of the flowers. When the evacuations are immoderately increaſed by exceſſive heat, or preternaturally obſtructed by the plucking of the leaves, by too much humidity, or other cauſes which prevent perſpiration, the plant ſoon either ſickens or dies. The chyle, which is formed in the ſap veſſels, has generally ſomething of a ſaccharine taſte.

Moſt ANIMALS have, like vegetables, both inhaling and exhaling veſſels, by which ſome of their fluids are abſorbed, and evacuations regularly carried on. Except, however in thoſe animals which ſubſiſt by liquids, theſe veſſels are of little importance in receiving food or ejecting what is fæcal from the ſyſtem. In theſe animals the abſorbents terminate in a hollow viſcus, which is called the alimentary canal, where the fluids undergo a preparatory change, and are partly reabſorbed for aſſimilation. In all others the food enters by a proboſcis, or by an aperture called the *mouth*: this mouth is properly the entrance of the alimentary duct. It is very generally furniſhed with a tongue, which is uſually aſſiſting in deglutition; and if the food be of that nature to require cutting, tearing, or grinding, it is likewiſe furniſhed with the proper inſtruments for theſe operations. When the food is teſtaceous or ſome hard vegetable ſubſtance, and theſe inſtruments are not in the mouth, ſomething ſimilar is generally found in a more remote part of the canal. The crab and the lobſter have accordingly grinding teeth in their ſtomachs, and granivorous fowls have a powerful gizzard lined with a thick corneous ſubſtance. It poſſeſſes the compreſſing force of the jaws; and ſmall pebbles which the animals ſwallow, ſerve it for teeth.

Beſides grinding, the ſolid food often requires to be mixed with ſome additional liquid. In thoſe carnivorous animals which chew, this liquid during the time of maſtication flows into the mouth from certain glands in the neighbourhood. In ſome ſpecies of *ſimia* a previous dilution takes place in two pouches ſituated on the ſides of the lower jaw. In granivorous birds this dilution is uſually performed in a ſac, which is a dilatation of the canal; and the food being macerated there by the glands or exhaling veſſels, gradually paſſes down, as is needed, to be triturated and further prepared in the ſtomach. In the ruminating kind the dilution is performed in a ſimilar manner; but theſe having no muſcular ſtomach fitted for grinding, inſtead of deſcending, the food is brought up again into the mouth, and is then, after the proper maſtication, ſent to the ſtomach. If the food require no maſtication, it is ſent directly that way at firſt: a circumſtance which ſhows a curious diſcernment with reſpect to foods, and proves that this alimentary canal is ſubject to the action of voluntary muſcles as far as the ſtomach. Some of thoſe birds which have a diluting ſac or ingluvies ſeem likewiſe to ruminate. This in a parrot was obſerved by the gentlemen of the French academy. It has ſince been obſerved in rooks, macaws, cockatoos, and others: and Mr Hunter diſcovered, that the male and the female pigeon ſecrete in their ingluvies a certain liquor for feeding their young; and that the moſt part of what have been thought ruminating birds very often in expreſſing their fondneſs regurgitate their food. Yet both this and another ſpecies of regurgitation, which is very common with many animals that ſwallow indigeſtible ſubſtances with their food, ſhould be carefully diſtinguiſhed from rumination.

To the ruminating kinds the diluting ſac is by no means peculiar. The porpoiſe has a ſtomach though it does not ruminate; and many other animals which have none, as the rat, the hog, the horſe, have a part of the ſtomach or gullet with a cuticle, and which muſt therefore occaſionally ſerve as a reſervoir. The gullets of many fiſhes, and ſerpents are ſacs of this kind. Many of their prey projects often from the mouth while another part fills up the gullet and gradually deſcends, to be reduced in the ſolvent below. The very dilatable are the ſtomachs and the gullets of ſome animals, that ſerpents have been often known to ſwallow whole animals, which prior to their gorging, were larger than themſelves; and many polypes, and even ſome of the louſe kind, by ſwallowing food, more than double their bulk.

All animals which ruminate have two ſtomachs or at leaſt two diviſions in one; ſome have three, as the gazella; and ſome 4, as the cow, the dromedary, and the ſheep: but the number of ſtomachs is no proof of a ruminating power. The porpoiſe has two; the porcupine has three diviſions in one; and the caſſowar, although it has four ſtomachs, does not ruminate; nor, although granivorous, is any one of the four a gizzard. Somewhat different from theſe expanſions of the firſt part of the alimentary canal, is a ſmall pouch which hangs from the neck and the mandible of ſeveral birds, and which, like the pouches of apes, may be uſed either to macerate the food or to carry proviſions from a diſtance to their young. The pelican, a native of warm countries, employs this pouch ſometimes to hold a quantity of water.

Beſides the fluids which mingle with the food in the mouth, the gullet, or macerating ſacs, there is one denominated the *gaſtric juice*, which in ſome meaſure as a ſolvent. It is ſecreted by large glands at the entrance of the gizzard, by veſſels or glands in the coats of the ſtomach, and perhaps moſt plentifully near the pylorus: it powerfully reſiſts the putrefactive fermentation; coagulates milk and the white of an egg; it diſſolves food even when incloſed in metallic tubes. When life ceaſes, it acts frequently on the very ſtomach from which it was ſecreted. Its taſte,

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n, and solvent powers, are different in different ſſes of animals. It ſeems to be modified acdiug to the age, the health, the habit, and the ferent aliments on which they live. But what moſt ſurpriſing in the gaſtric juice is, that it res all living bodies, as thoſe worms which exiſt the ſtomach, and the ſtomach itſelf while it is e; and it has an aſſimilating power, and reres all ſubſtances, whether animal or vegetable, which it acts, to a certain fluid of determinate perties, called CHYLE.

The food, after paſſing through the ſtomach, is ıgled with a greeniſh ſaponaceous liquor, callILE, which flows either immediately from the r, or from a veſicle into which it had regurgid as into a blind gut: at the ſame time nearly s mingled with another reſembling the ſaliva n the pancreas or ſweet-bread; a gland or ds whoſe place is ſupplied in many fiſhes by a nber of vermicular appendages to the ſtomach: hort, from one extremity of the alimentary ca to the other, fluids are perpetually flowing in a cavity from glands, veſſels, or organic pores; the membranes conſtantly ſecreting a mucus rotect themſelves from the acrimony of their tents. This acrimony muſt often be conſiderr near to that end of the canal where the fæces diſcharged; for, as the firſt part of the canal has erally one or more dilatations called *ſtomachs*, ſecretes at leaſt one fluid which is ſtrongly anptic, ſo the laſt part has generally appendages ed *cæca*, where the food always remains for e time, and where, from the quantity of aniı matter that happens to be mixed with it, it mes putreſcent. The oſſide of the cœca is times ſupplied by the largeneſs and convoluıs of the colon, as in the bear whoſe inteſtines 40 feet long, but have no cæcum. The cœca of various forms and capacities; they are often er than the ſtomach itſelf; are often compoſed proportionally thin and tranſparent membranes; from their contents have often a colour ſomeıt reſembling that of the gall-bladder. Their ber is different in different animals. Some but one. The birds which have them have rally two; the buſtard has three; and Swammam has diſſected inſects which had four. The am of both the rabbit and the hare is curiouſly ed. It is large and beautiful; is rolled up like rnu ammonis; and has a fold running ſpirally hin. The animals which live on vegetable food e uſually the greateſt length of the canal, and greateſt number of ſtomachs and of cœca: yet caſſowar, which has no gizzard, has no cœ; and the polype, which is ſaid to be all ſtoh, is, properly ſpeaking, rather all cœcum. In treating of the proceſs of digeſtion, we muſt overlook that general organic action which through the whole alimentary canal. The er of maſtication exerted in the mouth is obus. But the force of ſome ſtomachs has till y lately been known to few. Abbé SPALLANI divided ſtomachs into 3 ſorts; the muſcular, membranous, and intermediate. BORELLI d the force of the muſcular ſtomachs by throwinto them nuts of filberds, hollow ſpheres of ſs, hollow cubes of lead, ſmall pyramids of od, and ſeveral other very hard ſubſtances, ſuppoſing that the power exerted by the ſtomach of the Indian cock was equal to 1350 lb. weight. The force of an intermediate ſtomach cannot be ſo great, and that of a membranous one muſt be ſtill leſs. Each ſeems to have more of the ſolvent as it has leſs of the muſcular power. The moſt membranous are aſſiſted by the action of the neighbouring parts, and expel their contents as readily as the ſtrongeſt. The muſcular ſort is either wholly or principally confined to certain kinds of birds and of fiſhes. This comminution takes place in their ſtomachs.

The direction of hairs found in the ſtomachs, and the balls of hair which are thrown up, indicate a circular motion in the alimentary canal. The inteſtinal part has a motion ſimilar to that of a worm, and is called the *vermicular* or *periſtaltic*. Every portion retains its own motion, tho' ſeparated from the reſt by ligatures. The ſtomach of the polype, the gullets of the ruminating kinds, and the cœca, have this motion in different directions at different times; and that obſerved in the alimentary canal of a louſe is, when viewed through a microſcope in the time of action, amazingly rapid; the ſtimulating cauſes employed are the food, the different liquors with which it is mixed, the air, the nerves where they exiſt, and a portion of heat. Some degree of heat is neceſſary to every proceſs of digeſtion both in the animal and vegetable kingdom: what that degree is depends on the nature of the living body; and is various according to its age, health, employments, and habits. The ingenious Hunter has mentioned the digeſtive and generative heats; and gardeners verſant in the operations of hot-houſes, have on their thermometers the ſwelling, flowering, and the ripening heats, with a great many others, for the plants which they raiſe. Among the other cauſes of digeſtion ſome authors have ranked FERMENTATION: and it muſt be allowed, that ſomething ſimilar to the putrefactive fermentation takes place in the cœca and the lower extremity of the inteſtine, and that the vinous and acetous fermentations but too frequently occur in our ſtomachs when that viſcus is morbidly affected.

Living bodies are much regulated by the different degrees of heat, the varieties of ſoil, and the kinds of food concerned in digeſtion. The plants grow where the ſoil and heat are congenial to their nature; and thoſe which admit of the greateſt variety with reſpect to ſoil, and the largeſt range on the ſcale of heat, are the fartheſt diſperſed over the globe. As every ſoil has uſually ſome regular ſupply of moiſture, the plants that can live upon that ſupply extend their roots under the ſurface, where their liquid food is the leaſt expoſed to evaporation. If their trunks need a ſupport, they creep on the ground, they climb the face of a neighbouring rock, or cling to the body of ſome of the ſtateſt children of the foreſt. Their range for food is chiefly confined to the ſmall ſpace occupied by their roots and branches; yet if any uncommon exertion be neceſſary, the branches will bend, and the leaves turn to drink of the water that is paſſing by. If the roots be laid bare, they will again plunge into the earth; if a ſtone or a ditch be thrown in the way, they will move round or will dip downwards, and ſpread into the

ſoil

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foil on the other side: if there they arrive at one that is unfriendly, they will not enter; but if a favourite earth should be near, though not in their direction, they will twist about, advance as they grow, and at last meet it. In all these cases the prop, the water, and foil, must be necessary; they must also be within a very small distance, otherwise the plants cannot perceive them, or will fail in their languid attempts to approach them.

It may be considered as a general fact, that wherever food is liberally supplied for a whole lifetime in one place, the creatures which use it have seldom much locomotive power, or much inclination to exercise it in a long continued and progressive line. The curious insect is therefore observed to deposit its offspring in those places where the prospect of genial warmth and of plenty seems to preclude the future necessity of wandering or research; and when this offspring is about to pass into a new state, and the organs foretel that a change or perhaps a variety of food will soon be required, the appearance either of wings or of legs does likewise foreshow that the power of locomotion is to be increased. The nobler animals, when the organs of digestion are strong and the appetite inclines to variety of aliment, wander in search of it, and move at intervals, from place to place. Such are often endued with a large alimentary canal, with stomachs, convolutions, and cœca, where they may lay up provisions for a journey.

This variety of food, and the manner in which it is affected by climate, are the cause of the many and singular migrations from spot to spot, from country to country, and from sea to sea: they are the cause of a state of torpor in the hedge hog and the bear, and they partly explain the provident foresight of the ant and of the bee. Animals of great locomotive power, to provide for themselves and their offspring, remove to a distant country or climate. Those of less locomotive power, and who are incapable of migrating far, lay up a store for the scarcity to come; or, should their food be of that kind as not to be easily preserved, their system becomes susceptible of torpor, and they are enabled to sleep through the period of want.

Sect. III. *Of* Absorption.

When the food has undergone the first preparation, by *digestion*, and the chyle is formed in the alimentary canal or sap-vessels, it is thence taken up by means of absorption for the use of the system. From the vessels it passes into the whole cellular tissue, composed of vesicles, and closely interwoven with all the vascular part of the plant. From the vesicles or utricles of the cellular tissue it enters the vasa propria and glands, which contain and prepare the fluids and secretions peculiar to the species.

It was supposed that the chyle was absorbed by the ramifications of the red veins spreading on the gut, till 1622, when Asellius an Italian discovered the lacteals running on the mesentery of a living dog, and printed his account of them in 1627. As he had not traced their course very far, he thought that they went to the liver. This opinion continued to be general till 1651, when Pecquet in France published his account of the thoracic duct. He owned that he had been led to make the discovery by observing a whitish fluid mixed with the blood in the right auricle of the heart of a dog. The lymphatics were first discovered by Rudbeck, a young Swedish anatomist; and Thomas Bartholine, a Danish anatomist, first published upon them. His book came out in 1653, Glisson, who wrote in 1654, has ascribed to these vessels the office of carrying the lubricating lymph from the several cavities back into the blood; and Frederic Hoffman affirmed they were absorbents very explicitly. On the 19th June 1664, Swammerdam discovered the valves of these vessels; and Ruysch, who had seen them, perhaps very nearly about that time, first gave an account of them in a treatise published at the Hague in 1665.

The most decisive mode of demonstrating the lymphatics we owe to the celebrated Nuck, who as a specimen of that complete System of Lymphography which he meant to publish, printed in 1691 his *Adenography*, or Description of the Glands. In this treatise he not only tells us how he brought them into view, but in his plates represents many of them as filled with his new mercurial injection, a happy invention, since followed by others. The method by which he inflated these vessels led him to suppose that they took their origin from veins or arteries, either immediately or through the intervention of some follicles. The celebrity of his name procured credit to this mistake; and notwithstanding the founder opinion of Glisson, Hoffman, and others, the old notion that the veins performed the office of absorbents came to be handed down as Haller and Meckel. The arguments, however, by which it was supported are found now to have been erroneous; while the bold assertion that birds and fishes were without lacteals or lymphatics, has been disproved by the fortunate discoveries of Mr Hewson and Dr Monro. Excepting, therefore, in the penis and placenta, and in those animals whose veins may be injected from the gravid uterus, the lymphatics perform the whole business of absorption. They contain a fluid that is coagulable like the lymph of the blood, and are called valvular to distinguish them from the arteries that do not admit the red globules. They derive their origin from the cellular membrane, from the different cavities and from the surface. They both run into the veins, but most of the lymphatics in the human subject and all the lacteals, first unite in the thoracic duct which near the heart leads into the course of the circulation.

Sect. IV. *Of* Circulation.

After part of the food is converted into chyle and this chyle is absorbed by the lacteals; when brought into the course of the circulation, it is distributed to all the different parts of the system. On this account Hippocrates speaks of the uniform and constant motion of the blood, of the veins and arteries as the fountains of human nature, as the rivers that water the whole body. When after his time anatomy came to be more studied, the notions of the ancients respecting the blood were better defined; and, however chimerical they may seem to us, they were partly derived from observation and experiment. On opening dead bodies they

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ey found that the arteries were almoſt empty, d that very nearly the whole of the blood was llected in the veins, and in the right auricle and ntricle of the heart. They therefore conclud- that the right ventricle was a ſort of labora- ry; that it attracted the blood from the cavæ; ſome operation rendered it fit for the purpoſe nutrition, and then returned it by the way that came. From the almoſt empty ſtate of the ar- ies, they were led to ſuppoſe that the right ricle prepared air, and that this air was con- ed by the arteries to temper the heat of the ral parts to which the branches of the veins e diſtributed.

This laſt notion was entertained by Eraſiſtratus, en added an important diſcovery. By certain periments he proved that the arteries contained od as well as the veins. But this diſcovery s the occaſion of ſome embarraſſment. How s the blood to get from the right to the left ricle? To ſolve the difficulty in which his diſcovery had involved him, he ſuppoſed that branches of the veins and arteries anaſtomoſ- that when the blood was carried to the lungs the pulmonary vein, it was partly prevented the valves from returning; that therefore du- the contraction of the thorax it paſſed through ſmall inoſculating branches to the pulmonary and was thence conveyed along with the air e left ventricle to flow in the aorta. This ion, tho' agreeable to fact, ſoon gave place to er that was the reſult of mere ſpeculation. was, that the left ventricle received air by ulmonary vein, and that all its blood was de through pores in the ſeptum of the heart.

he paſſage through the ſeptum being once ſed, it was generally ſuppoſed the only one number of centuries; and ſupported like- by Galen's authority, it was deemed blaſphe- in medicine to talk of another. In 1543, ever, VESALIUS having publiſhed his immor- work upon the ſtructure of the human body, given his reaſons for diſſenting from Galen, ed it was impoſſible that the blood could paſs ugh the ſeptum of the heart. His reaſoning rou- the attention of anatomiſts; and every one eager to diſcover the real paſſage which the d muſt take in going from the right to the left ricle. The diſcovery of this fell firſt to the of Michael Servede, or SERVETUS, a Spaniſh ician, who publiſhed his opinion, and revived old doctrine of Galen, in 1553. But his opi- did not ſpread; the book in which it made ppearance contained hereſy, and was deſtroy- by public authority. Fortunately, the ſame very was again made by Realdus Columbus, ſſor of anatomy at Padua and Rome, who ted his account of it in 1559. Many others, ged in the ſame reſearch were equally ſucceſs- and Andrew Cæſalpinus was ſingularly lucky. ppears by his *Peripatetic Queſtions* printed at ce in 1571, and reprinted in 1593, that he not only the leſſer circulation, but had ob- ed that there were times when the blood flow- rom the branches of the veins towards their ks, and that veins ſwelled between their liga- and the extremities, and not between the li- er and the heart. From theſe obſervations he inferred that the veins and arteries anaſtomoſed; and he ventured to aſſert that the blood could not return by the arteries to the left ventricle. Yet he did not diſcover the true circulation. Being a zealous peripatetic, he thought himſelf bound to maintain with Ariſtotle, that the blood flowed like the tides of Euripus backwards and forwards in the ſame channel; and therefore ſuppoſed that it flowed from the arteries into the veins in the time of ſleep, and from the veins back into the arteries in the time of waking. The greater circulation, ſo far as we can learn, was not even dreamed of by this writer. A farther ſtep was yet to be made towards its diſcovery; and this was reſerved for another profeſſor of the Paduan ſchool.

In 1574, Hieronymus Fabricius ab Aquapendente, while ſeeking for the cauſe of the varicoſe ſwellings of ſome veins, which had ariſen from friction and ligature, he to his great joy diſcovered their valves in one of his diſſections: and thus again the true theory of circulation ſeemed almoſt unavoidable. Yet whoever reads the ſmall treatiſe *De Venarum Oſtiolis*, firſt printed by Hieronymus Fabricius ab Aquapondente in 1603, will ſee that he was as far from entertaining a juſt notion of the circulation as his predeceſſors. Notwithſtanding all that he ſaw, he ſtill was of opinion that the blood flowed from the heart to the extremities even in the veins. He calls them an inſtance of admirable wiſdom, and miſtakes his own awkward conjecture for one of the deſigns of infinite intelligence. Yet he bore no inconſiderable ſhare in promoting the diſcovery of the circulation. By writing on the valves, the formation of the fœtus, and the chick in ovo, he directed the attention of his pupil Harvey to thoſe ſubjects, where it was likely that the motion of the blood would frequently occur.

HARVEY was born at Folkſtone in Kent, in 1578, completed his ſtudies at Cambridge, went to Padua, and was there admitted to the degree of M.D. with unuſual marks of applauſe, in 1602. He examined the valves with more accuracy than his maſter Fabricius; and explained their uſe in a treatiſe which he publiſhed ſome time after. About 1616 he firſt taught his celebrated doctrine of the circulation, and printed it in 1628. He was the firſt author who ſpoke conſiſtently of the motion of the blood, and drew rational concluſions from his experiments and obſervations. His books preſent us with many indications of a great mind, acute diſcernment, unwearied application, original remark, bold inquiry, and a clear, forcible, and manly reaſoning; and every one who conſiders the ſurpriſe which his doctrine occaſioned among the anatomiſts of thoſe days, the ſtrong oppoſition that it met with from ſome, and thoſe numerous and powerful prejudices, which it had to encounter from the ſanction of time and of great names, muſt allow that the author has a title to rank in the firſt claſs of eminent diſcoverers. His diſcoveries ſhowed, that in moſt animals the blood circulates in arteries and veins, and through the medium of one, two, or more hearts: that in arteries it moves from the trunk to the branches; and that, meeting there with the branches of veins, it returns in a languid ſtream to the heart; that the heart communicates a new impulſe; that it drives

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drives it on to the trunk of the arteries; and that the arteries, by the thickneſs of their coats, exerting a force, puſh it onwards again into the veins.

In every part of this circulating courſe, there are valves ſituated where it is neceſſary; they are meant to prevent the return of the blood; they are at the beginnings of the great arteries, and are found in different places of the veins where their feeble action requires to be aſſiſted. The veins, before they enter the heart, generally expand into a thin muſcular ſac, which is called the *auricle*. It receives the blood while the heart is contracting; and, when the heart admits of dilatation, contracts itſelf, and throws the blood into the ventricle.

We have here called the ventricle *a heart*; though what is uſually meant by the heart be a ventricle and auricle; or ſometimes a ventricle and two auricles, where the veins approach in different directions, and, without bending to meet one another expand at two different places. Two hearts are ſometimes united, ſo as in appearance to form but one. Hence the modes of circulation are various. In ſome animals the heart throws its blood to the remoteſt parts of the ſyſtem; in others it throws its blood only into the reſpiratory organs; from theſe it is collected by the branches of veins; and theſe branches, uniting in a trunk, convey it to an artery, which renews the impulſe, and acts as a heart. In a third ſet of animals, the blood from the reſpiratory organs is carried by the veins to another heart; and this ſecond heart, united in the ſame capſule with the firſt, diſtributes the blood by the channel of its arteries to the ſeveral parts. In the human fœtus, and the fœtuſes of thoſe animals which have two hearts, a part of the blood, without taking the paſſage through the lungs, proceeds directly from auricle to auricle. In amphibious animals, the auricular paſſage continues open during their life, and is employed, when the breathing ceaſes under the water. In many inſects, a number of hearts, or expanſions, which anſwer the purpoſe of hearts, are placed at intervals on the circulating courſe; and each renews the impulſe of the former where the momentum of the blood fails. In the *Sepia Loligo* the two ſeparate parts of the gills are each ſupplied by a heart of its own: the blood from both is collected into one; which, by two arteries opening at two different parts, ſend it at once to the oppoſite extremities. In numbers of animals, the heart, like the ſtomach, is in the extremity oppoſite to the head.

After the diſcovery of the circulation, the moſt intereſting object with anatomiſts was to demonſtrate it in a clear, ſatisfactory, and eaſy manner. Harvey, to ſhow it with every advantage, was obliged to open animals alive: but whether the animals were dead or alive, the larger branches of the veins and arteries were only to be ſeen, and even theſe but in certain caſes, when they happened occaſionally to be full of blood. That admirable method, which is now obſerved in demonſtrating the courſe of the circulation, we owe to the great anatomiſts of Holland who flouriſhed in the 17th century. About 1664, Regnier de Graaf invented the ſyringe, and accompanied with a print, publiſhed an account of it in 1669. His injection was uſually a thin fluid of a blue, green or ſome other colour; this injection tranſuded through the veſſels, allowed them to collapſe by its general diffuſion, and broke out through the firſt opening that happened in its way. A fluid which hardened after being injected, and which preſerved the veſſels diſtended, was a happier contrivance. This at firſt was either melted tallow or wax, of a colour ſuiting the taſte of the anatomiſt. So early as 1667, Swammerdam injected the veſſels running on the uterus with wax; and tranſmitted preparations with plates, and a full account of his method, to the Royal Society of London in 1672. Soon after, his friend Ruyſch acquired ſuch ſkill in the art of injecting, that he has not been ſurpaſſed by any ſince his time. He diſcovered veſſels in many parts where they were not ſuppoſed to have had an exiſtence; and, contrary to the great Malpighi, ſhowed that even many of the glands were entirely vaſcular. Another diſcovery was made, for demonſtrating the ſmall capillary branches running through a part by the very ingenious Dr Nicholls of London, who invented the method of corroding the fleſhy parts with a menſtruum, and leaving the wax, as it was moulded by the veſſels, entire.

In the vegetable kingdom, the chyle is diſtributed to all the parts from the numerous veſſels which convey the ſap; and theſe veſſels, being fitted by their ſtructure to carry the ſap either downwards or upwards, from the branches to the roots, or from the roots to the branches, is the reaſon why plants inverted in the ground will ſend forth roots from the place of their branches, and ſend forth branches from the place of their roots. Even a ſimilar diſtribution of the chyle takes place in ſome animals. In the human placenta, in the faſciola hepatica of ſheep, and in the polypes, the chyle, without a circulating veſſel, is conveyed directly to the different parts from the alimentary canal.

Another circumſtance reſpecting the blood which ſometimes has engaged the thoughts of phyſiologiſts, is the colour which it has in ſome animals. The late Mr Hewson was of opinion that the lymphatics, with the ſpleen and the thymus, contributed greatly to the formation of the red globules. (See Blood, § 7.) His reaſoning, however, though very ingenious, is not conclu-ſive. The celebrated Nuck, who had often obſerved a reddiſh fluid in the lymphatics, aſſures us, that ſuch an appearance was always preternatural, and was either occaſioned by a ſcarcity of lymph, or by ſome irregular and too much accelerated motion of the blood.

The blood receives its vermilion colour in paſſing through the lungs; animals with lungs have the blood redder than thoſe which are ſecure without that organ; and the colour, as well as the heat, is in proportion to the extent and perfection of the lungs. Oxygenous gas is abſorbed in reſpiration; and it has been proved by experiment, that the red globules of the blood, and the red only, contain iron, and that the colour is owing to iron calcined by the pure air, and reduced to the ſtate of red oxyd. From this manner of conceiving the phenomena, ſays Chaptal, we may perceive why animal ſubſtances are ſo advantageous in aſſiſting and facilitating the red dye.

Various

Various experiments have proved how much
e colour and consistence of the blood is altered
the action of the vessels; and this discovery
s enabled us to conjecture, why in infants and
legmatic persons the blood is paler, in the cho-
ic more yellow, and, in the sanguine, of ver-
ion red; why the blood varies in the same in-
vidual, not only with regard to the state of
alth, but likewise at the same instant; why the
od which circulates through the veins has not
same intensity of colour, nor the same consist-
, as that of the arteries; why the blood which
through the organs of the breast differs from
which passes languidly through the viscera;
the vessels vary in the density of their coats,
in their diameters; why they are sometimes
voluted in a gland; why they sometimes de-
their contents in a follicle; why they are
etimes of a spiral form; why the branches
e off at various angles; why they are various-
anastomosed; why they sometimes carry the
od with dispatch, and sometimes slowly, thro'
housand windings. By these means their ac-
is varied, and the blood prepared to answer
purposes of nutrition and secretion.

SECT. V. *Of* NUTRITION.

NUTRITION (says the ingenious Dr BARC-
) is the function which assimilates the food
several parts, and which finishes the pro-
egun in the stomach, lungs, and vascular
In perfect animals some of the stages of
cess are distinctly marked. The chyle,
as some resemblance to milk, is the work
alimentary canal: it undergoes some new
by the action of the lacteals, and of their
when they exist. In the course of circu-
it passes along the respiratory organs, and
ed with oxygen or some other gas: by this
e, the consequent heat, and the action of
sels, it is turned into blood. The blood,
examined, spontaneously separates into three
an albuminous part or a serum, a coagu-
ymph, and red globules. The two first are
nus to the white parts of an egg, by which
ck in ovo is nourished; the globules have
semblance to the yolk, which serves after-
as food to the chick in the more advanced
d of life. The three parts contain in each a
y of principles which are originally composed
es; these principles, conveyed through vessels
ious forms, of various diagonals, and with
us degrees of motion and of heat, and all a-
arying as they pass, arrive at last on the
s of the parts which are wrapt up in a
tissue or some other membrane. The
r membrane gives a new change; the parts
ed perform the office of secreting organs;
the action of the vessels is varied according
place to which they are tending and the
which they enter, we partly see the manner
ch bone, muscle, cartilage, and nerve, are
ted from a common mass."

rition is carried on in worms and polypes,
igestion, almost entirely by the cellular tis-
and in plants by a tissue cellular and vesicu-
In all living bodies the cellular tissue, besides
giving a form to the parts, and preventing fric-
tion and cohesion, certainly performs some im-
portant office. Many have thought it the organ
of nutrition; and it certainly is one of the organs
employed in assisting to assimilate the nutritious
fluid. But in fact all the parts of the living body
are assimilating organs; each part assimilates for
itself; and the stomach, the respiratory organs,
the vessels, and nerves where they exist, are assist-
ant to the whole, and to one another. It is sur-
prising that any should have imagined that the
nerves are peculiarly the organs of nutrition,
or that growth should be owing to the addition
of some organic and vivifying particles pre-existing
in the food. These physiologists have not demon-
strated the existence of nerves in all living bodies;
and these organic and vivifying particles have as
yet been discovered but in their fancy. Dr Mon-
ro has proved, that the limb of a frog can live and
be nourished, and its wounds heal, without any
nerves: and Mr Hunter has given many instances
of a living and nutritious power in the blood.

"In plants and animals, the assimilating power
has always certain limits: its influence is very
generally confined to the sort of food congenial
to the species; and its strength is varied accord-
ing to circumstances, as the age, the habits, and
the state of health. Young animals and plants
assimilate faster than old; and one species will assi-
milate much faster than another. Certain worms
that feed on animal and vegetable substances will,
in 24 hours after their escape from the egg, be-
come not only double their former size, but will
weigh, according to Redi, from 155 to 210 times
more than before. Most oils are of very difficult
assimilation; essential oils will often resist the long
continued and the varied action of the living or-
gans; will mingle with the parts, and undecom-
pounded, communicate their flavour. In living
bodies nutrition is only a species of secretion."

SECT. VI. *Of* SECRETION.

SECRETION is a function by which a part is se-
parated from the whole, and generally with some
change of its qualities. In the case of nutrition it
was observed, that all parts secrete for them-
selves; and that some few, as the lungs, the sto-
mach, the vessels, and the nerves, officiate be-
sides for the general use of the whole system. If
all the ingesta were to remain and to be assimilat-
ed, the body would continually increase. But living
bodies are constantly in a state of waste and repair.
In most animals part of the ingesta is carried off
by evacuation, without having entered the mouths
of the absorbents; part, which enters the absor-
bents and veins, is thrown off by exhaling arteries
or the urinary passage: and experiments with
madder prove that the lymphatics, besides origi-
nating from all the cavities and carrying back the
lubricating fluids, do enter the substance of the
hardest bones, and convey particles that had been
assimilated back into the blood.

The fæces, the urine, and perspirable matter,
are remarkably distinguished by two kinds of o-
dour; the one peculiar to the whole species, the
other peculiar to the individual. By the perspi-
rable matter which adheres to the ground, and

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of which the odour is diffuſed by moiſture, the dog not only diſtinguiſhes a man from any other animal, but is able to trace his maſter through a crowd. The natural evacuations of plants, and of ſome few animals which feed by abſorbents, are all by perſpiration or exhaling veſſels. The urine in quadrupeds is before emiſſion collected in a veſicle, and thence carried off by the genital organ. In birds, and in a number of fiſhes, the ureters empty themſelves into the rectum, and their contents are evacuated with the fæces.

The word *ſecretion* is ſometimes employed for the matters ſecreted. In this ſenſe there are various ſecretions. Beſides the fæces, the urine, the ſweat, and the vapour from the lungs, which are excrementitious, there are ſecretions which anſwer uſeful purpoſes in the ſyſtem. Of theſe the moſt important and general are the bile, the ſaliva, the gaſtric juice, and the pancreatic, which aſſiſt in digeſtion; the lymph and the fat, which lubricate the parts; the mucus, which protects them from acrid ſubſtances; the nervous fluid, which forms a very conſpicuous link between body and mind; the ſeminal fluid, employed to propagate the ſpecies; and the lacteal, intended for ſome while to ſupport the young after they emerge from the fœtal ſtate.

The SALIVA is a fluid that mixes with the food in maſtication. In man it is ſecreted from the parotid, the ſublingual, and ſubmaxillary glands; it is watery and ſomewhat viſcid; it retards and moderates fermentation: it has ſometimes a tendency to form calculi. By theſe concretions it incruſts the teeth and ſometimes obſtructs the ſalivary ducts. It is the ſeat of the rabies canina.

The GASTRIC LIQUOR poſſeſſes a ſolvent power upon animal and vegetable ſubſtances, with little preference of affinity, as it varies according to the nature of the aliment; "it is ſometimes acid, (ſays Chaptal) ſometimes inſipid. Brugnatelli has found in the gaſtric juice of carnivorous birds and ſome others a diſengaged acid, a reſin, and an animal ſubſtance, united with a ſmall quantity of common ſalt. The gaſtric juice of ruminating animals contains ammoniac, an extractive animal ſubſtance, and common ſalt. In our time the phoſphoric acid has been found diſengaged in the gaſtric juice" of the graminivorous kinds.

"The BILE ſecreted by the liver is glutinous or imperfectly fluid like oil, of a very bitter taſte, a green colour inclining to yellow, and froths by agitation like the ſolution of ſoap. Its conſtituent principles are water, a ſpiritus rector, a coagulable lymph, a reſinous oil, and ſoda. The reſinous part differs from vegetable reſins, becauſe theſe do not form a ſoap with fixed alkalis, becauſe they are more acrid and inflammable, and becauſe the animal reſin melts at the temperature of 40°, and acquires a fluidity ſimilar to that of fat. From fat it differs in not being ſoluble in cold alcohol, in which reſpect it approaches to ſpermaceti, which alcohol cannot diſſolve without heat. Bile, like other ſoaps, removes ſpots of oil from clothes; when its paſſages are obſtructed, the motion of the inteſtines becomes languid. It is neither alkaline nor highly putreſcent. In putrefaction it yields ſomething of a muſky odour; the foſſil alkali precipitates from it a green ſediment; and with diſtilled vinegar it produces a mixture neither acrid nor ſweet. Like ſaliva and urine, it has a tendency to form concretions called *biliary calculi* or *gall-ſtones*. They are ſometimes found of an irregular texture, of a brown, black, yelloviſh, or greeniſh colour. They ſometimes conſiſt of tranſparent cryſtalline lamina, like mica or talc, and are ſometimes radiated from the centre to the circumference. They are always inflammable, of a more ſolid conſiſtence than the generality of animal oils, and reſemble ſpermaceti both in their ſolidity and cryſtallization, they are ſoluble in ardent ſpirit when aſſiſted by a moderate heat: the warm ſolution, when filtered, depoſits by cooling a number of laminated white brilliant cryſtals, which have been compared to the ſalt of benzoin, the concrete acid of benzoin, and to ſpermaceti. Many of their characters indicate that they are a ſubſtance of the ſame nature with the laſt. Fourcroy found that the ſubſtance of which theſe cryſtals are compoſed exiſted only in the cryſtallized gall-ſtones or bile; he obſerved it to a very conſiderable degree in a human liver which had been expoſed to the air for ſeveral years, and had loſt its volatile parts by putrefaction. He detected it alſo in a ſaponaceous ſubſtance bodies which had been many years buried in the ground; and lately Dr Pearſon of London has artificially converted the muſcular fibre into a ſubſtance of a ſimilar kind, highly inflammable, and reſembling ſpermaceti.

The PANCREATIC JUICE reſembles the ſaliva and was examined in the 17th century, by De Graaf and Swammerdam. It has often been obſerved forming ſtony concretions.

The LYMPH conſiſts chiefly of water; but the ſerous part of the blood, contains a ſubſtance which is coagulable by heat, by acids, and by ſpirit of wine. It is found in the cellular membrane, in the ventricles of the brain, in the pericardium, on the ſurface of the pleura, in the abdomen, in the burſæ mucoſæ, and in the joints under the name of SYNOVIA, where it has more than an ordinary degree of viſcidity, and a lubricating quality. It is ſecreted chiefly by arteries.

Animal FAT is a ſubſtance of a nature ſimilar to the fat oils in the vegetable kingdom. Its colour is uſually white, ſometimes yellow, and its taſte inſipid. Its conſiſtence is various in different animals. In cetaceous animals and fiſhes it is nearly fluid: in carnivorous animals more fluid than in the frugivorous; in birds, finer, ſweeter, more unctuous, and generally leſs ſolid than in quadrupeds. In the ſame animal it is more ſolid near the kidneys and under the ſkin than in the vicinity of the moveable viſcera. As the animal grows old it becomes yellower and more ſolid; and in moſt animals is more copious in winter than in ſummer. In man and other animals, it is collected in particular cells of the cellular membrane, accumulated in large quantities in the groin, in the axilla, in the epiploon around the kidneys and blood-veſſels, and likewiſe ſecreted on the ſurface of the ſkin, where it protects from acrid ſubſtances. In cetaceous animals and fiſhes it is generally diſpoſed in certain reſervoirs ſuch as the cavity of the cranium and the vertebræ; in ſome it is chiefly confined to the liver; in ſerpents, inſects and worms, it

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cera of the lower belly, where it is disposed in all lumps, and only a small quantity found on muscles and under the skin: in frogs it is collected in certain bags which diverge from a common trunk, and seem like appendages to the ovaand testes. In many places it seems to be secreted by organic pores, and under the surface of skin by glands. It is accumulated from a diution of perspiration, from the nature of the ents, from morbid affection, and from idiosyn-. It is of the same nature as the fixed oil of

is a bad conductor of heat, and preserves the th of those regions where it is situated. It ore adhesive and less apt to evaporate than er, and is therefore, a better lubricating fluid. en reabsorbed, it counteracts the saline imation if too copious; and its nutritive power three to one when compared to that of the ular fibre. These properties explain its uses nd the several branches of the blood-vessels in e parts which require warmth, and which are ed to motion. They likewise account for ing more copious in winter than in summer; for its being found in great quantities in those als which are constrained to a long abstinence. orms sometimes steatomatous tumours, and ains the sebacic acid, which acts readily on copper, and iron.

he VEGETABLE FAT is contained chiefly in t; and is known by the names of *fat oil*, il, and *oil by expression*. It freezes in differgrees of heat, and varies according to the of the plant by which it is afforded.

he MUCUS is more viscid than the lymph, and coagulable by fire or alcohol. It is mild, posed to corruption, nor soluble in water. ecretion is performed by glands. Mucus nd in the nose, through the whole length of limentary canal from the mouth to the anus, e aspera arteria, in the bronchia, in the kidureters, bladder, and most of all in the ura. It forms hard stony concretions sometin the lungs.

he SEMINAL FLUID has seldom been analyz- It is heavier than water, soluble in urine, deces in air and with heat; it hardens with fixed alkali, and is not coagulable by alcohol. ontains a number of animalculæ; and in the n in which it is secreted, it affects the passi, the manners, the voice, the taste of the ies, the secretion of fat, and the growth of air. In many fishes this fluid is contained in t of bags. In most animals it is secreted by s, called *testes*, and is accumulated in the vaferentia, or where they exist in the seminal ics. Mr Hunter shows that they secrete a ecular fluid in all animals.

We are so little acquainted with the NERVOUS ID, that some have doubted of its existence. discovery, however, of GALVANI and the erous experiments that have since been mad on animal electricity, lead us to hope that ething yet may be known of its properties, t will greatly illustrate the phenomena of the mal economy.

The LACTEAL SECRETION is generally confin to one sex, and is peculiar to the class of mammalia, though something similar may perhaps be secreted in the crops of pigeons.

We cannot enumerate all the different secretions in living bodies, without running into a tedious detail. The essential OILS, the CAMPHOR, GUMS, the BALSAMS, the RESINS, &c. are various secretions of the vegetable kingdom. (See these articles in their order.) Each species of plant and animal has generally some peculiar secretion; and this secretion in the individual has often some distinguishing quality, discoverable by taste, colour, or smell. These secretions have likewise each their particular uses.

The difference among the various secretions of the same system seem principally owing to a difference of stimulants, and to the various action, form, and irritable powers of the secretory organ. The passions often affect the secretions; and passion and medicine often affect one secretory organ and not another. It is therefore probable, that the organs of secretion, (and the smallest fibre is an organ of this kind) like the eye, the ear, and all the different organs of sense, are each affected in some measure by peculiar stimulants; as the stomach by hunger, the fauces by thirst, and the genital organs by venereal orgasmus. But however much the various fluids of living bodies may differ in appearance, chemical analysis has generally reduced them all to a water, a gluten, a salt, and an oil.

SECT. VII. *Of* INTEGUMATION.

ALL living bodies have one, two, or more integuments, prepared by secretory organs, as a defence against those injuries to which their situation is exposed. Of these integuments, some prevent the dissipation of the fluids, some resist acrid and corrosive substances, some are indigestible in the stomach, and some are seemingly incorruptible in the earth. By these properties they preserve seeds and the ova of insects for a number of years, waiting the change of soil or of season. They protect both from the action of weak membranous stomachs, and make those animals who swallow them contribute likewise to their propagation. The gelatinous substance ejected by birds, and called the *tremella nostoc*, or *starfall*, is found, by numerous experiments, to be a substance of this kind. (See NOSTOC and TREMELLA, N° 3.) Several integuments are useful by their strength and hardness. The shells of the beetle are an excellent defence for the membranous wings which the creature folds up when it creeps into the earth. The shell of the snail lodges the intestines when the animal comes forth to search for its food, and furnishes a safe retreat for the body when any danger is threatened. Some animals, confined to their shells, can open and close them by a muscular power; and some shells, like the scales on fishes and insects, are disposed into plates, so as to be no hindrance to motion. Several insects which live partly in the water always compose a shell for themselves where it is needful. The usual materials are sand, straws, or mud, which they cement by a viscid secretion. The shells of most insects are corneous. Swammerdam found that cretaceous shells are composed of layers of indurated membranes, and that they are sometimes covered with a cuticle.

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Many integuments are covered with feathers; others with hair or a thick down. Besides many other obvious uses of these coverings, they serve in general to repel insects; and, being bad conductors of heat, preserve a genial and necessary warmth. When the integuments are covered with prickles, they repel attacks by the strength of their points, or by the venom which they infuse, as the stings of nettles and the downs of some insects and plants. When moistened with a viscid secretion, they preserve the softness of the parts, prevent evaporation, resist acrimony, enable plants to destroy their enemies, and assist the snail in performing its motions.

Both plants and animals, but particularly the former, are often protected by effluvia from their integuments. This is the finer part of their volatile oil, always inflammable, and so subtile, that the continual emission of it from wood or flowers does not sensibly diminish their weight. To this odour it is owing, that the deadly nightshade, the henbane, hounds tongue, and many others, are seen on almost every high road untouched by animals. The mancinelle tree of the West Indies emits so very dangerous vapours, that those have died who have slept under its shade. The *lobelia longiflora* of America produces a suffocating oppression in the breast of those who respire near it. The return of a periodical disorder has been attributed to the exhalation of the rhus toxicodendron. (See Rhus, N° 7.) Every one knows, says Chaptal, the effects of musk and oriental saffron on certain persons. Ingenhousz mentions a young lady whose death was occasioned by the smell of lillies; and Triller tells of another who died by the smell of violets. The selection of grasses by different animals seems owing to the volatile aroma. But of all the vegetable exhalations known, those emitted by the bohun-upas, or poison-tree of Java, are the most remarkable. For many miles round no animal can breathe the air, no plant dares peep from the soil, the fishes die in the poisoned stream, and the birds that fly through its atmosphere with despairing shrieks sink down lifeless.

The various colours of the integuments, are also a species of defence. "Caterpillars which feed on leaves (says Darwin) are generally green; and earth-worms the colour of the earth. Butterflies which frequent flowers are coloured like them. Small birds which frequent hedges have greenish backs like the leaves, and light-coloured bellies like the sky, and are hence less visible to the hawk who passes under them or over them. Those birds which are much among flowers, as the goldfinch, are furnished with vivid colours. The lark, partridge, and hare, are of the colour of dry vegetables, or earth on which they rest; frogs vary their colour with the mud of the streams which they frequent; and birds which live on trees are green. Fish which are generally suspended in the water, and swallows which frequent the air, have their backs the colour of the distant ground, and their bellies of the sky." The sphinx convolvuli resembles in colour the flower on which it rests; and among plants, the nectary and petals of the ophrys, and of some kinds of the delphinium, resemble both in form and colour the insects which plunder them, and thus sometimes escape from their enemies by having the appearance of being pre-occupied. Many animals vary their colours with the seasons; and those which are of various colours in summer, in winter assume the colour of the snow.

But a change of colour is not the only change of the integuments. The tree annually casts its bark, the lobster his shell, the quadruped his hair and sometimes his horns, the serpent his skin, and man himself renews the scales of the epidermis. These changes usually take place once a-year, often twice with respect to serpents, and often to toads, who devour the skins they throw off. But the integuments of ova and seeds, being the production of parental organs, neither are nor can be changed.

Sect. VIII. *Of* Irritability.

"Irritability (says the ingenious Dr Barclay) is that property of the living fibre by which it acts in consequence of stimulants. Being one of the great causes of motion in living bodies, no property has excited more wonder, been the cause of more error, or exhibits such a number of striking phenomena to the senses. These effects, however, have arisen rather from the nature of the stimulants than from any thing mysterious in irritability. Many of the stimulants by which this property in bodies is displayed are often invisible, unknown, or unthought of; and men being conscious that a number of their motions proceed from a stimulant that is under the direction of a mental power, they readily conclude from a sort of analogy, that every motion in plant and insect that seems to answer a useful purpose, and is caused by some invisible stimulant, is the consequence of *mind* directing from within: That irritability is in all cases the consequence of nerves, which are those organs which nature has employed in the animal kingdom to convey stimuli between body and mind. These singular conclusions have led to others that are inadmissible."

The learned Dr Haller, however, the first who made use of this term, gives a very different account of irritability, which he represents as a property, not of the *nerves*, but of the muscular *fibres*, totally distinct from and independent of *sensibility*. See his account of it under the article Anatomy, § 190, and Irritability; with Monro's remarks upon it, and experiments in opposition to it, under Anatomy, § 513—526. Abraham Girtanner gives a different account of irritability from both these great physicians, borrowing the late Dr Brown's account of the principle of Excitability, and adopting his very words; though he does not do him the honour to quote his *Elementa Medicinæ*, but substitutes the term *irritability* for *excitability*, through the whole description of this principle, although Dr Brown's *Excitability* and Haller's *Irritability* are *toto cælo* different.

But the ingenious Dr Barclay, after reviewing the many absurd hypotheses, advanced by physiologists on this and other branches of the system, makes the following, among many other, judicious observations, on Irritability, which he considers as an effect of stimulants.

"Besides the other propensities which operate

stimulants in the system itself, the naturalist has found that light, heat and moisture, in various degrees from absolute darkness, coldness, and dryness, act as stimulants upon living bodies: he has experienced that ELECTRICITY is a general agent, that several plants emit flashes, and that some animals even give shocks resembling the electric. He has made it probable that it produces all the wonders of crystallization; and that the cause of chemical affinity, and of all the phenomena displayed by the magnet, if not simply a modification, is at least akin to it. In the male parts of plant and animal he has seen both the fluid and the pollen that gave the stimulus in generation, and are accompanied with so extraordinary changes in the system. He has found that much of the vegetable economy, and even the function of generation itself, as the evelopment of the fecundating powder, and its pplication to the female organ, is partly carried on by wind, heat, and other such agents. He has also to conjecture that many general agents in nature are yet *unknown*. By the help of chemistry, he has found out lately a considerable number, called *gases* which are of the very highest importance in both the animal and vegetable economy, and which, like the *aromas* of plants, or the cause of contagion, produce their effects without being visible. It is only, too, of a late date that the celebrated professor GALVANI of Bologna has excited so much curiosity through Europe, by the discovery of a certain stimulus that resides in the nerves, that passes along electric conductors, and which by a certain application of metals occasions a kind flash in the eye, convulses the body of a living frog, and rouses the detached limbs into action. The change of colour in the integuments according to different seasons and circumstances, though it answer a rational and useful purpose, proceeds from a cause that does not seem to be very well known. Even many agents which are not invisible, nor yet unknown, exert their influence in a secret manner, not obvious to the senses. It is generally known, that many singular movements of plants are owing to heat, many to light, and several to moisture. The barley-corn is often observed to creep on the ground by means of its awn, which dilates or contracts according to the different degrees of moisture. The wild oat, employed as an hygrometer, moves through the barn, travels through the fields, nor ceases to be changing its situation till its beard fall off, or till it meet with a soil where it conveniently may strike root. These agents, whether invisible, unknown, or unthought of, directed by regular and uniform laws under the great Author of nature, produce effects that indicate prescience, wisdom, and design, and, cause a transient or permanent propensity in the animal part, frequently controul by resistless sway the finite minds that reside in matter. These minds, in a living body, have generally been found accompanied with some system of nerves."

Our author, after some other remarks, says that, "In all animals the vigour of mind has some relation to the quantity of brain, and to the perfection of its organization; and that the acuteness of the different senses is generally proportioned to the quantity of nerve bestowed on their organs. Man has a greater proportion of brain than any other animal, but many an animal has a much greater proportion of nerves bestowed on different organs of sense. Many animals have therefore acuter senses than man; but man has a *greater vigour of mind* than any other animal on this globe.

"The brain of quadrupeds is somewhat similar to that of man, but proportionally smaller, and not so well organized. WILLIS has observed, that among animals the structure of the cerebrum is more variable than that of the cerebellum; that the former generally furnishes nerves to the voluntary muscles, and the latter with the medulla oblongata to the involuntary.

"The brain of birds is seemingly the reverse of the human brain; the cortical substance is the interior, and the ventricles are situated in the white part on the outside. In the brain of the bird there are no circumvolutions like the intestines, no fornix, corpus callosum, nor corpora striata.

"The brain of fishes is in many respects similar in its structure to the brain of birds. It is very small in proportion to their body, and is generally surrounded with an oily matter. In one genus of fishes, the gadus, Dr MONRO found spheroidal bodies between the dura and pia mater, and covering the greater part of the nerves like a coat of mail. The two senses, seeing and hearing, in many fishes are often acute. By laying one ear on the water, and striking the surface at some distance, this element is found to be a better conductor of sound than even the air.

"The reptile tribes have very little brain, and like the fishes have no ganglions upon their nerves. Most insects have no brain at all, but a nervous cord that is full of ganglions, that runs from one extremity to the other, and is denominated the spinal marrow. This knotty cord, however, is not marrow; the insect has nothing resembling a spine; and the situation of the cord in the animal is often not along the back but the breast. In the silk-worm, and most other insects, this cord is in contact with the alimentary canal; and the first ganglion, which is sometimes called *the brain*, though not in the head, divides, in order to give a passage to the stomach, and again unites in a second ganglion. Swammerdam found in a species of snail a brain with two lobes, in contact with the stomach, moveable by muscles, and without a fixed place in the body.

"The polypes exhibit no appearance of brain or of nerve, as in other animals. Their skin, however, is full of a number of small granulary bodies, connected by a glareous matter that resembles a thread. Like rows of beadstrings, they extend from one extremity to the other, and along the arms. Some nerves (adds our author) by frequent service and habit become so obedient as to convey their stimuli to the muscles almost without the consciousness of mind. The motions excited by the stimuli of nerves are in many cases exceedingly rapid. These may be seen in the wings of most insects, but are most noticed in dancers, tumblers, and apes, and all those animals that are exhibited for feats of agility.

"The motions excited in the body by the stimuli of nerves have often been so vigorous and prompt, as to have torn the muscle from the bone, and to have broken the bone itself. They often

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often affect the organs of ſecretion, have often unhinged the fabric of the ſyſtem, occaſioned death, and accounted for the miracles that have been aſcribed to the power of fancy. The prompt motions of what have been named *ſenſitive* plants ſeem owing to a different ſpecies of ſtimulants acting on extremely *irritable fibres*.

"In the animal kingdom, all muſcles in the time of action are obſerved to diſcharge a quantity of their blood; and thoſe muſcles which are naturally white are the *moſt irritable*. In all living bodies, the irritable power will ceaſe to obey the action of a ſtimulant, if either long or violently applied. After exerciſe, therefore, the irritable fibre requires reſt, after heat cold, after waking ſleep, before it again becomes ſubmiſſive to the action of the ſtimulant that overwhelmed it. This is the reaſon that in plants and animals there are certain exertions and functions of the ſyſtem that can only be continued at intervals and ſeaſons. The natural ſtimuli of involuntary muſcles continue to act, and the muſcles to obey through life."

On the whole, the difference of irritability "ariſes from the ſtructure of the organ itſelf, and from the manner in which the nerve is diſtributed through it. Other parts of the animal body, as the ſtomach, the fauces, and the genital organs, are thus affected by particular ſtimulants; and many animals, and even vegetables, may be affected in various manners, and by various ſtimulants, of which neither our feelings nor our ſenſes can give intimation of any thing analogous."

Sect. IX. *Of* Motion.

"Irritability, (continues Dr Barclay,) is one of the great ſources of motion in all living bodies; and this power is brought into action immediately by nerves or ſome other ſtimulants. Locomotion here is principally conſidered; for although the kinds of internal motion employed in ſecretion and the other functions be as remarkable, in the eye of the philoſopher, they have not ſo generally attracted attention. Moſt animals are capable by nature of changing the place which their body occupies; for this reaſon, the irritable fibres, being formed into bundles, called muscles, are in moſt animals attached to bones, cartilages, or hard integuments, which they move as levers: theſe levers, with their muſcles attached, are in moſt caſes formed into wings, fins, or legs of various kinds, and are employed in performing the motions of flying, ſwimming, walking, leaping, and creeping. So very neceſſary, in the opinion of ſome of the ancients, was one or other of theſe inſtruments to progreſſive motion, that the movement of the ſerpent was often aſcribed to a preternatural cauſe, was ſuppoſed to reſemble the *inceſſus deorum*, and procured to the animal one of the higheſt ranks among the emblematic kinds of divinities. Notwithſtanding, however, the ſurpriſe that has been occaſioned by its ſingular movement, the motion of ſnails, though not ſo rapid, is in many reſpects as extraordinary: they adhere by a certain viſcid ſecretion; on dry ground this ſecretion forms a pavement over which they glide; and they proceed by the action of muſcles, without bone, cartilage, or ſhell, to which the muſcles can be attached.

"No animal walks without legs, or flies without wings; but there are many that ſwim without fins, and that leap and creep without legs. The rapidity of movement is not proportioned to the number of inſtruments that are employed: if the ſpout-fiſh be obſerved to move ſlowly with one leg, the ſea-urchin moves ſtill ſlower with many thouſands; the oyſter moves by ſquirting out water; the ſcallop by the jerk of its ſhells, and when in the water it riſes to the ſurface and ſails before the wind.

"Many animals are formed by nature to fly, walk, leap, and ſwim: the fate of thoſe is rather uncommon whoſe muſcles or feet are by nature attached to their integuments; the lobſter is obliged to throw off its ſhell, and the caterpillar all its feet with the ſkin, and in that ſituation to remain ſtationary till it receive new inſtruments of motion. Beſides the organs here mentioned, the form, the ſtructure, and even the ſpecific gravity of the body, as depending on the nature of the bones and muſcles, or as varied by air, veſicles, and bubbles, with a great variety of other circumſtances, are neceſſary to explain the different phenomena of locomotion.

"As to *vegetable motions*, they evidently depend on external agents. The motion of the wild oat has been mentioned; the wings of ſeeds to them to be carried by the wind, their ſpecific gravity to float in the water, and their legs or muſcula to adhere to bodies that are in motion: the ſingular motions which have been aſcribed to *ſleeping*, *waking*, *ſenſation*, and *volition*, in the vegetable kingdom, ſeem only the conſequence of light, heat, moiſture, and ſuch ſtimulants, acting inviſibly or with ſecret influence: the opening and cloſing of the meteoric flowers are always correſpondent to the ſtates of the atmoſphere, and the opening and cloſing of the equinoctial and tropic flowers, to the light, the length or ſhortneſs of the day.

"The principal intentions of locomotion are to get food, to ſhun danger, to promote intercourſe, and diſperſe the ſpecies."

Sect. X. *Of* Habit.

Habit in phyſiology differs a little from its uſual meaning. Dr Barclay uſes it "to ſignify that principle in living bodies by which they accommodate themſelves to circumſtances, aſſuming as it were a different nature, and in many reſpects undergo a ſpecies of tranſformation."

So greatly do ſome vegetables accommodate themſelves to different ſituations, to ſoil, to climate, and the ſtate of cultivation, that naturaliſts, not accuſtomed to nice and accurate diſcriminations, have often miſtaken the variations of the ſame plant for ſo many ſpecies. Theſe variations may be daily ſeen by examining the plant as it grows on the mountains, in the valleys, in the garden, or in the fields; or by bringing it from a rude uncultivated ſtate, when it ſometimes loſes aſide its formidable prickles, and changes the colour and ſtructure of its flowers.

Both in plants and animals the delicacy and vigour of the conſtitution are oftener the effects of habit and circumſtance than original conformation. The varying colour of the integuments and

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and its changing with the ſeaſons have been mentioned. We may add, that animals covered with a down or hair have it thick or thin, long or ſhort, according to the exigencies of climate.

Theſe changes on their bodies are accompanied with others, which are the cauſes of new taſtes, new propenſities, and new manners. At the Cape of Good Hope the oſtrich ſits on her eggs day and night like other birds; but in Senegal, where the heat is greater, ſhe leaves them to the ſun during the day. In thoſe countries where proviſions may be found during the greateſt part of the year, the bee gradually loſes the propenſity of laying up ſtores for winter; and in thoſe countries infeſted with monkeys, many birds, which in other climates build in buſhes and the clefts of trees, ſuſpend their neſts upon ſlender twigs, and by this ingenious device elude the rapacity of their enemies. Man, from imitation, has a great number of habits peculiar to himſelf; and phyſical cauſes have ingeniouſly been aſſigned for the variety of the features and complexion. Few experiments have yet been made to ſhow how far this accommodating principle may be extended in the different ſpecies of plants and animals.

It often happens among living bodies, that ſeveral characteriſtic diſtinctions, as the colour, the ſize, and a number of diſeaſes that are originally the effects of circumſtance, at laſt become ſo habitual in the ſyſtem, that they become hereditary in ſome generations. With regard to animals theſe facts are well known; and as to vegetables it has been obſerved, that the apple trees which were ſent from Britain to New England bloſſomed firſt too early for the climate, and bear fruit; and that it is only after ſome years that they conform to their ſituation. The permanency of theſe effects has often been the cauſe of much confuſion and error in philoſophy: for the inquirer, miſtaking the laſting, though temporary effects of habit for the real and eſſential qualities of ſpecies, has often drawn concluſions from his experiments that have been contradicted by ſimilar experiments in other circumſtances. This is one of the obvious reaſons why experiments exhibit ſo many inconſiſtencies, and why we are amuſed with ſuch a multitude of viſionary theories about the properties of living bodies. From not attending to the numerous circumſtances that induce habit, and to that general accommodating principle in living bodies, many medical preſcriptions are not only uſeleſs but miſchievous.

The accommodating principle is one of the conſequences of irritability. Its various effects ariſe from the actions of different ſtimulants on the ſame fibre; and the after-duration of theſe effects from the modifications of irritable fibres, become habitual from the frequent repeated action of ſtimulants. The deſign of this accommodating principle is to fit both the plant and the animal for a more extenſive and a more varied ſcene of exiſtence.

Sect. XI. *Of* Transformation.

The changes which plants and animals undergo in metamorphoſis or transformation are more remarkably ſtriking, than any of thoſe to which they are expoſed, from the variations of habit or the change of integuments. It has indeed been aſſerted, that theſe alterations conſiſt in throwing off certain temporary coverings or envelopes; but there is here a want of preciſion in the ideas, and conſequently a want of accuracy in the expreſſion. The ſame perſons who make this aſſertion inform us, that caterpillars change their ſkin, and many of them even ſeveral times, previous to the period of their transformation. Transformation, therefore, and a change of integuments, by their own conceſſions, are different things. The truth is, transformation frequently takes place independent of any change of integuments; and there is often a change of the integuments without transformation or any appearance of a new form; but a new form or change of appearance is always implied in metamorphoſis or transformation. This new form is ſometimes occaſioned by a change of ſhape, conſiſtency, and colour; as when the lobes of a ſeed are converted into ſeminal leaves. It is ſometimes occaſioned by a change of proportions among the parts. It is ſometimes occaſioned by the addition of new organs; as when the emmet receives wings, and the plume of the ſeed is fed by new roots ſtriking into the ground; or it is occaſioned by a change of both the form and the organs, and their mode of operation, as happens remarkably in ſome inſects: for, though all living bodies, plants, and animals, undergo partial or general transformation, yet theſe changes are chiefly obſervable among inſects. Many inſects appear to conſiſt of two diſtinct animal bodies, one within the other: the exterior, a creature of an ugly form, reſiding in the water or under the earth, breathing by gills, or ſometimes by tracheæ projecting from the tail, poſſeſſing a voracious and grovelling appetite, and having a ſyſtem of ſanguiferous veſſels that circulates the blood towards the head. When all its parts decay and fall off, the creature incloſed ſucceeds in its ſtead: this often is an animal of a different form, generally lives in a different element, feeds on a different ſpecies of food, has different inſtruments of motion, different organs of ſenſe, and different organs of reſpiration, and differently ſituated; and, being endowed with the parts of generation, inclines to gratify the ſexual propenſity, and produces an embryo which becomes like the firſt, and from which afterwards in proceſs of time a creature is evolved ſimilar to itſelf.

"If the embryo or egg be depoſited on a leaf, the leaf is frequently obſerved to bend, to wrap it in folds intended for the purpoſe, and to protect it from injuries and danger. If depoſited in the body of an animal or plant, they accommodate themſelves to its wants and neceſſities, and furniſh a tumour which ſerves it for a nidus, and beſides, like an uterus, ſupplies it with nouriſhment; and if depoſited in the body of an inſect, the creature provides for the future deſtination of its young charge with all the tender care of a parent, and then dies."

Theſe circumſtances, added to the great variety of forms which inſects aſſume, render it ſometimes difficult to know who is the parent. We cannot, for inſtance, pronounce with certainty who

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who is the true parent of the GORDIUS, known by the name of the *fœta equina*, or hair eel. A set of experiments, which Dr BARCLAY once began with a view to throw some light on the subject, were interrupted unfortunately by an accident, and he has not since had leisure to resume them. He learned only, from a number of observations, that certain black beetles about the end of the summer months have the strongest propensity to run into the water, where they soon die; and that one or two, and sometimes three or more, of those eels gradually drop from the beetle by the anus.

If the reader wish to be much acquainted with the manners and transformations of insects, he will derive information and pleasure from consulting the plates and memoirs of RÉAUMUR. If he wish to know their intimate structure, the laborious SWAMMERDAM can introduce him to a new and amusing species of anatomy. This last author had, before Reaumur, defined and described the kinds of transmutations among insects and some other animals. He has shown similar transmutations in plants; and in plate 46 of his Book of Nature, has compared the frog and the clove July-flower under their six different forms. In all living bodies possessed of mind, the changes of form, as well as the change of habit and of age, are usually accompanied with new propensities, appetites, and passions.

Microscopic observations having demonstrated, that all the forms of the plant and animal existed previously in the seed or embryo, transformation must be owing entirely to the evolution of the different parts by means of nutrition. By means of transformation different elements are peopled, the different seasons variously adorned, and animated nature wonderfully diversified without a multiplication of beings.

Sect. XII. *Of* Generation.

MANY of the causes which contribute to the formation of a living body have hitherto eluded human research; and perhaps are beyond human comprehension. Some philosophers, considering the extreme divisibility of matter, and learning from the microscope that transformation is but the development of certain parts that previously existed, have imagined that generation is somewhat analogous; that all regularly organised bodies received their form at the beginning; that the first of every genus and species contained by involution the numerous millions of succeeding generations; and that the union of the two sexes gives only a stimulus, and brings into view forms that had existed since the world began.

The absurdity of this hypothesis, which attempted to explain a thing that is *unknown*, by what must for ever remain *incomprehensible* to the human mind in its present state, is self-evident. Several other theories of generation are mentioned under ANATOMY. See also MIDWIFERY, *Sect.* II.

"But for a long time past (says Dr Barclay,) the most rational physiologists have generally agreed, that the embryo is formed gradually and slowly in one or other of the two sexes, not by chemical combination and mixture, but by a system of organs, directed by laws and prompted by stimuli, with many of which we are yet unacquainted. From the great Hippocrates downwards to Aristotle, Aspendens and Harvey, the credit of furnishing the fœtal embryo was almost universally given to the females of oviparous animals. Among the viviparous, appearances were such, that the female was left to contest it with the male. At last the eclat of LEUWENHOEK's discoveries seemed to put an end to all doubts entertained upon the subject. He very plainly saw, through his microscope, that very great profusion of particles, that moved to and fro with amazing rapidity in the male semen. (See ANIMALCULE, § 6.) Upon this he enforced the doctrine of HAMME, who had seen them before, and supposed from their motions that those particles were not only animalcules, but the principles or rudiments of that animal in whom they were formed, and that they were deposited in the uterus of the female only to be nourished and augmented in size.

"What raised suspicions against this theory were the numerous animalcules discoverable by the microscope in other fluids, and that the profusion of young embryos in those cases, where never more than one or two arrive at maturity. It was an objection to it, that some females had been impregnated where the hymen remained unbroken, and where the vulva had been shut so closely as to leave only a passage for the urine. The male semen in these instances could have reached only the mouth of the uterus. It was another, that in all birds which have no intrant penis the male semen is never sent farther than the mouth of the vulva, and that a single act of the male impregnates the whole eggs of the ovarium. A third objection is the pollen of flowers, which is not applied immediately to the seed, but often to a distant part of the vessel in which it is contained. 4th may be taken from frogs and fishes, in those animals whose eggs are impregnated by emission. And lastly, Haller had observed the fœtus completely formed in those eggs that were unfecundated.

"It is now pretty generally known, that the embryo does not commence its existence in the cavity of the uterus. De Graaf observed it on its passage down the Fallopian tube; he saw the place where it first began in the testicle of the male; and cases have occurred where it has miscarried in the Fallopian tube, where it has fallen into the abdomen, where the placenta has been formed, and the fœtus has grown among the viscera of the lower belly. See MIDWIFERY, *Part* I. *Sect.* V.

"From these facts it has been concluded, notwithstanding some feeble objections, that the male testicles are real ovaries containing eggs: these eggs are brought into action by the fecundating power of the male semen, which is sometimes thrown into the cavity of the uterus, sometimes applied only to its mouth, and sometimes sprinkled over the egg after emission. The principal difference, therefore that occurs between oviparous and viviparous animals, considered as such, appears to be this: the former are accustomed to eject their embryo before it escapes from the membranes of the egg; the latter retain it long in the uterus until it acquires a considerable size, until the membranes can hold it no longer.

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hen eject it when the membranes are burſt. A ant is oviparous when it yields ſeed; viviparous hen it produces a gem, a bud, a bulb, or an ed root. The membranes of the ſeed being re-oved, an incipient embryo is ſeen through the icroſcope.

"Some animals, according to the ſeaſon, eject e embryo incloſed in its membranes, or retain it the uterus till the membranes are broken. heſe are the animals which are ſaid to be ovi-rous at one period and viviparous at another. ſome animals the ſexual union is almoſt in-taneous. It conſtitutes nearly the buſineſs of in the laſt ſtage of the ephemeron; and the ſe both of the frog and toad often continues the back of the female not for hours and for ys only but for ſome weeks. Upon exami-ion it has been found, that with his fore feet aſſiſts the female to protrude her eggs through e windings of the oviduct; and when they at arrive at the anus, a ſpecies of the toad has en obſerved to draw them out with his hind s. Theſe animals were probably the firſt of e maſculine gender who practiſed this art." re Dr Barclay adds ſome humorous remarks, d concludes that "due honour has not been aſ-ed to the *obſtetrical toad* for his diſcovery," by imitators and ſucceſſors the *Men-midwives*.

Among all living bodies the two ſexes are ge-ly ſimilar; and the male ſex is generally diſtin-ed by ſuperior ſtrength, beauty, and courage. aw, however, does not hold univerſally. emales of ſome carnivorous animals, who d by the male to provide for their offſpring, ger, ſtronger, and more ferocious than he. ong ſome inſects the male and female have no ity even in form. The male of the glow-is a beetle, which flies in the dark, and is ded not by the form, but the brilliancy of his s. The female gall inſect is a large maſs a vegetable excreſcence, without locomotion; ale a ſmall fly full of activity. The one is as e to the other as a Harpy to a Venus, and as proportioned in point of bulk as a horſe to an ant.

In many animals the diſtinctions of ſex are aled in the body. When any of their parts placed externally, or protruded occaſionally, male parts are uſually prominent, and the fe-e hollow, in order to receive them. In the a-, however, in many flies, and a few hornets, caſe is reverſed; the female parts ſuffer erec-, and the male parts are open and hollow for r reception.

The external ſituation of theſe parts is very h varied in different animals. In many worms near to the head. It is often upon the ſide of ſnail; near to the breaſt in the female of the on-fly. It is at the extremity of the antennæ e male ſpider. The vulva enters from the am in birds. Its common ſituation in moſt a-ls is well known. The male penis, where re is one, is ſometimes found to enter the vulva, metimes not: it is ſometimes imperforated, metimes forked, ſometimes double, ſometimes thy, ſometimes bony, ſometimes ſtraight, ſome-es winding ſpirally like a ſcrew, ſometimes with a knob, and ſometimes with a point at its extremity, according to the kinds and varieties of animals.

"Few individuals have more than one ſex. Many ſnails, however, are androgynous, and have two. In copulation they perform the office of two ſexes, and are mutually impregnated. This circumſtance has often led the ſenſualiſt to wiſh that he were a ſnail. With equal reaſon the epicure might wiſh to be one of thoſe worms that imbibe by abſorbents, and ſuck in nouriſhment by a thouſand mouths. The organs employed may be more in number, the continuance of their function may be much longer, and yet the gratification may be leſs. The diſcreet beauty can afford a million of pleaſures to her lover, which no ſnail or ſenſualiſt enjoys, and which proſtitution can never yield.

"The male and female parts of the vegetable are ſometimes both on the ſame flower, ſometimes on ſeparate flowers, and ſometimes even on different plants of the ſame ſpecies. Beſides the flower, another organ of generation is found in vegetables. This is the corona, from which the buds and branches proceed. It is a ſubſtance between the pith and the ligneous circles, and from which the diametral inſertments diverge. See BOTANY, *Ind*

"The corona is moſt conſpicuous at the time when the ſeed is to be formed; and the teſticles and ovaries of thoſe animals which procreate only at ſtated periods are diminiſhed in ſize, and ſometimes diſappear till the genial ſeaſon."

With regard to the deciſion of the ſex of the fœtus, our learned author thinks that, "wherever a male or female is produced, the ſtimulus of that particular ſex, whatever was the cauſe, had during the time of coition and conception acquired the aſcendency over the parts that were to become ſexual in the embryo. We cannot ſo readily anſwer the queſtion, Why the offſpring ſhould poſſeſs the form and diſpoſitions of one parent, and the ſex of the other? In this caſe, the different ſtimuli may have acted differently on different parts; in the caſe of hermaphrodites, which are very common in the horſe, the aſs, the cow, and the ſheep, the two parents ſeem to divide the form, the ſex, and the diſpoſitions, equally between them.

"The particular cauſe which excites the *orgaſm* in the female organs is not aſcertained. (See ORGASM.) That viſcous fluid which young laſcivious females eject when fond of the male, is chiefly a ſecretion from the glands of the vagina, the mouth of the uterus, and the neighbouring parts. In ſome reſpects it appears to be ſimilar to thoſe periodical diſcharges of females which frequently aſſume the erect poſture; and theſe diſcharges being uſually diſcontinued during the times of pregnancy and ſuckling, we muſt ſuppoſe that it is a portion of that fluid which nature has prepared for the uſe of the fœtus. Theſe diſcharges are always a proof that the female has arrived at the age of puberty; that her ovary is now performing its office; and that ſhe is diſpoſed to propagate her kind. Whatever be the cauſe of the female orgaſmus, it is often ſo ſtrong as to counteract the natural effects of the ſeminal fluid, and prevent impregnation. For this reaſon, few young

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and lascivious females conceive immediately after their marriage; and after coition, therefore, in cattle, it is sometimes a practice to beat the female, to plunge her in water, to weary her with running, and to use other means to prevent the return of the sexual desire.

"In man, and some of the nobler animals, the influence of fancy over the organs of generation is unquestionably great; but the extent and mode of its agency is not defined. Those who allow it so much power in impressing marks, and altering the form and colour of the fœtus, support their opinion rather by the number than the strength of their arguments. Many of the stories which they adduce as proofs are fabulous, and have brought the truth of the whole into question. The reports, however, of the French commissioners who were appointed to examine the nature of ANIMAL MAGNETISM, ought to deter the candid inquirer from drawing very hasty conclusions.† The queries of Fienus, in his small work entitled *De Viribus Imaginationis Tractatus*, concerning the powers of this mental faculty are important and curious, and might be of use in directing our researches; but they ought to be answered by accurate experiments, and not by acute metaphysical reasoning, and historical anecdotes that are ill authenticated.

"To prevent a confusion of genera and species, animals are generally restricted by propensity to their own kind; and the seminal fluids, besides, being various in various animals, cannot indiscriminately act as a stimulus on all female organs of generation. The changes of form induced by habit, which is owing itself to the influence of stimuli, will partly explain the manner in which the progeny is made to resemble the male. As the irritability of different parts is of different kinds, the stimulus will have a different effect on different organs; and in these cases, where either genera or species are mixed, the parts which are most and least affected by the stimulus of the male will be obvious in the shape and form of the offspring.

"We have hitherto spoken of generation as being performed by the temporary intercourse of two sexes; but the puceron is an instance where sexual distinctions are not always necessary." (See PUCERON.) "Even where they exist, they are daily dispensed with in the vegetable kingdom. Plants grow from the gem, the bulb, the leaf, or the root. They propagate by slips, by suckers, and by layers; and some of them, as the house leek and some grasses, multiply by spontaneous separation. In some animals the distinctions of sex are totally unknown. Infusory animalcules multiply their species by continual divisions and subdivisions of their own body; some polypes, by spontaneous separation, split transversely, some longitudinally, and some even send off shoots. When experiments have been made upon these animals, it has been discovered that the numerous and artificial divisions of their body or their head produce entire animals. Trembley learned that they might be engrafted upon one another, and produce monsters as wild and extravagant as poet or fabulist has ever dreamed of.

"The alimentary canal of some animals distributes nourishment thro' the whole body without the intervention of circulating vessels, and the vital organs of vegetables are generally diffused through the whole system. The case is the same in polypi as in plants. Every part is a miniature of the whole. It is found to have similar organs of digestion, of respiration, of circulation, and of generation. In perfect animals all the parts are mutually dependent on one another; the vital organs have distinct situations, and their powers are concentrated in distinct places. The arm of a man has no heart, lungs, stomach, or organs of generation; but the branch of a tree has as complete a system of organs as the trunk itself, and is as independent of that body from which it grew as the graft is dependent of the stock. The several parts of perfect animals all contribute to make one whole; the several parts of a plant or polype, when united together, form only a congeries of living beings. These facts contribute to explain the principal phenomena in this mode of propagation."

SECT. XIII. *Of* SLEEP.

"SLEEP (says Dr BARCLAY,) is rather an affection of mind than a property of body, and is therefore more naturally a subject of metaphysics than of physiology. This affection is often induced by fatigue and exercise; and several persons, when they are weary and no longer able to move their limbs, say they are exhausted. Though the word *exhausted*, in this expression, has seldom any precise meaning, it seems, however, to have been the means of suggesting a theory with regard to sleep. This theory supposes that sleep is occasioned by the exhaustion of irritability in the living system; but it seems to be founded on very limited and partial observations, or rather has been formed, like many others, prior to any observations at all, and afterwards tortured to account for the periodical returns of sleep, for the almost unremitted drowsiness of infants, and for that listless state of inaction so often attendant on old age. When exhaustion of irritability can well be supposed to have taken place, the propensity to sleep on such occasions becomes irresistible, from the effects of monotonous speaking, from stillness, darkness, from the sameness of scenery around us; and when one stimulus, after long application, can rouse no more (a plain proof that the irritable principle is by no means exhausted,) another stimulus that is less powerful in ordinary cases is accompanied with excitement.

In all living bodies there is a continual waste and repair, or to speak with more precision and accuracy, one process of assimilation and another of dissolution constantly taking place in all the different parts of the system. This assimilation, when the body is healthy, predominates in youth; dissolution prevails in old age; and the two are nearly on a par during the vigour and meridian of life. A gentle and moderate exertion of mind and body will promote both. And lastly, immoderate exertion in either respect, or any exertion that is not suited to our strength, habits, or period

† *From this passage, as well as from some others, which we have not quoted,* Dr BARCLAY *seems to put more faith in the doctrine of* ANIMAL MAGNETISM, *than most other modern British Physicians.* See that article.

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ſe, prevents aſſimilation, haſtens diſſolution; and
ne means which nature employs to reſtore the
alance is uſually by inducing a ſtate of ſleep.

"When the balance is reſtored, and all the parts
e again repaired for diſcharging their office, man
wakes; but his waking period is of ſhort dura-
on, if appetite or paſſion do not engage him in
me purſuit, if his mind be not occupied with
me object, or if no ſtimuli be applied from with-
it. This period ſeems chiefly intended for col-
ting food, and for being employed in thoſe ex-
ions which promote reſpiration, digeſtion, ab-
tion, circulation, and ſecretion; while ſleep,
the food is collected, aſſiſts nutrition, and
motes aſſimilation throughout the ſyſtem. If
t is the natural food of the ſpecies cannot be
ected by the plant or animal in a ſhort time,
period of ſleep is proportionally reſtricted. If
food received be difficultly aſſimilated, the
od of ſleep is proportionally extended. If the
d be not prepared for aſſimilation, the ſleep is
rbed. If it be difficultly prepared by the or-
s, the active exertions are more vigorous; if
ly prepared, they are more feeble. If it be
ted during the day, the ſleep is in the night;
be collected during the night, the ſleep takes
during the day; and all living bodies are di-
by nature to ſelect that time and ſpecies of
which is moſt ſuited to their nature, their
, their circumſtances, and age.

o favour nutrition, not only the body, but
e mind, muſt be allowed to indulge in reſt.
ild ſleeps, and his mental faculties are un-
raint, that thoſe functions employed in nu-
may not be diſturbed. The mental facul-
e ſtill feeble in a more advanced period of
d the moderate exertions of mind and bo-
ch are natural to youth are chiefly ſuch as
the preparatory organs of the ſyſtem, and
e growth: but the active and vigorous ex-
of manhood, confidered with reſpect to
r to body, ſoon cauſe diſſolution to pre-
ate in the ſcale, and old age becomes liſtleſs,
e, and drowſy, and the mind returns to
od or dotage, becauſe living bodies accom-
e themſelves to circumſtances, and the pre-
diſſolution is retarded by the frequent re-
of reſt and of ſleep, which favour the aſſimi-
power, counteract *re-abſorption*, and oppoſe
y.

For the beſt of reaſons, the mind is not allow-
judge for itſelf when it is proper to eat, to
, to ſleep, to wake, and to propagate the ſpe-
Theſe and the like are offices too important to
ſolly intruſted with a being of ſo very limited
gence. In all theſe caſes, it is therefore di-
by certain propenſities reſulting from the
in conſequence of ſtimuli or organic ſtruc-
Being often amuſed with thoughts and ideas
ſe objects which are purely intellectual, as
ces of memory, the forms of fancy, and its
operations in the way of reaſoning; being in-
with ſome little power in rouſing, calming
regulating the paſſions, the deſires, and appe-
and having the command of all the voluntary
ments of the body; it ſometimes neglects its
e of the ſyſtem, deſtroys it ſometimes by ex-
ceſſive indulgence, and ſometimes employs it in accompliſhing ends peculiarly its own.

"The natural returns of waking and ſleeping may be altered by the preſence or abſence of ſtimuli, and are curiouſly affected by the influence of habit. Although the commencement of one of theſe periods be changed, the commencement of the other will continue as before. If a perſon be accuſtomed to ſleep preciſely at 9 P. M. and to riſe again at 6 A. M. though his ſleep in the evening may now and then be kept off till 12 he will waken at ſix; and though continued by darkneſs, quietneſs, or ſuch-like cauſes, till the day be advanced, it will recommence in the evening at 9. The ſtate of phyſiology is ſuch at preſent, that we cannot aſſign any preciſe phyſical cauſe for the natural kinds of ſleeping and waking, or for their regular periods of return.

"Plants too have been ſaid to ſleep. At the approach of night, many of them are obſerved to change their appearances very conſiderably, and ſometimes even to ſuch a degree as ſcarcely to be known for what they were before. During the night, many leaves, according to the nature of the plant, riſe up, hang down, or fold themſelves in various ways for the protection of the flowers, the buds, the fruits, or young ſtems; and many flowers, to eſcape a ſuper-abundance of moiſture, hang down their mouths towards the earth, or wrap themſelves up in their calyxes. Theſe phenomena are owing to ſtimuli acting from without: moſt of the motions are performed at the joints where the leaves and petals articulate with the ſtem. A period of reſt is as neceſſary to plants as ſleep is to animals: the rapid growth, obſervable in plants during the night, is a ſtrong proof that the organs employed in aſſimilation had been diſturbed in diſcharging their functions during the day, when expoſed to the actions of heat and light and of other ſtimulants."

Such is the ingenious Dr Barclay's theory of Sleep in animals and plants. Without objecting to the former branch of it, or entering at all upon the latter, we ſhall quote, by way of contraſt, the theory of the late eminent Dr JOHN BROWN, reſpecting the ſleep of animals, which appears fully as plauſible and conſiſtent, as any we have met with. To prevent any miſunderſtanding of the terms, we refer the reader to the articles, BRUNONIAN SYSTEM, § 4; EXCITABILITY, § 1—3; EXCITEMENT, § 2; STIMULUS, &c.

"As Death" (ſays the Doctor) "cloſes all the labours of life, ſo Sleep cloſes thoſe of every day; and, as the former is the conſequence of a perfect extinction of the excitement, either from a complete exhauſtion or extreme abundance of excitability; ſo the latter ſucceeds a diminution of excitement, during which the excitability is either, 1. only ſo far diminiſhed, that it can be accumulated again; or, 2. ſo abundant, that the exceſs can be waſted; and, in each caſe, the excitement reſtored. Such is the nature of the excitability of animals, that it can neither be deficient nor over-abundant, without detriment; a deficiency producing indirect, and a ſuper-abundance direct debility. And, as any exciting power, carried beyond its boundary, produces the former,

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and the withholding of any gives occasion to the latter; the same proposition holds good of the excessive or too sparing use of any of them, or of all. Sleep, then, is the effect of our actions during the day, at first giving always more and more excitement, afterwards less and less, in proportion to the continuance of their operation, but so as always to afford some excitement, till the person arrives at that state, where the degree of excitement, necessary to the waking state, no longer exists. Of this we have the most certain proof, in every day's experience, and in the common effect of all the exciting powers to produce sleep. Thus a certain degree of heat, food, drink, labour of body or mind, and passion or emotion, when their stimulus neither stops short of the proper point, nor goes beyond it, all give a disposition to sleep. This is the most salutary sleep. Premature, unseasonable, or morbid sleep, is produced by either indirect or direct debility. With respect to the former, an excessive operation of any one or more of the stimuli produces it, by acting in excess and wasting the excitability, such as hurried drinking, &c. Of the directly debilitating powers, which produce the same effect, the want, or sparing application, of the powers, which, by a due degree of stimulus, induce sleep, will induce a bad kind of it." *Elem. Med.* Vol. I. p. 266—270.

Sect. XIV. *Of* Death.

"Death is the cessation and total absence of the living principle in organized bodies. It is sometimes imitated by sleep and swoons; and a state of torpor in many instances can hardly be distinguished from it. Several mosses and a few animals, as the ears of blighted wheat, the seta equina, the wheel polype, and some snails, may be safely preserved as dried preparations, not for months only but for years; and after irritability and sensation have been totally suspended, will return to life upon the proper application of moisture. A wheel polype was put by Fontana upon a bit of glass, and exposed during the whole summer to the noonday sun; another was exposed in a similar manner for a year and a half; and, after they were like a piece of hardened glue, were restored to the use of all their functions by a few drops of water. Wherever there is death, there must therefore be likewise a partial or general decomposition of one or more of the vital organs. This decomposition takes place naturally in some living bodies after a few hours, in some after a few days; the life of others is extended to weeks; some are vigorous for months or a season. Man has often seen more than fourscore; and the hardy oak survives the shock of two or three centuries. These observations conspire to show that there is a certain period of existence allotted by nature to every species of living bodies. In the individual this period is sometimes abridged, and may be sometimes extended by circumstances; yet there is a bound which it cannot pass, when the vital organs must be decomposed, and the system moulder with the dust. The time of incubation and the time of gestation are pretty much defined in every species, because the circumstances of the individual in these cases are generally similar; but, after emerging from the fœtal state, the individuals are partly entrusted to their own organs and the chances of life, which are much varied; and hence the difference of their age.

"Life in general seems to be proportioned to the space occupied by that series of functions which the species is evidently destined to perform: and here sometimes the accommodating principle is singularly remarkable. As the period of decay is never seen to commence in the species till that of propagation be nearly elapsed, and as propagation in the lower tribes of plants and of animals is often the immediate harbinger of death; so many animals which have not propagated, indulged the propensity, nor become uneasy from the impulse of desire, continue vigorous longer than ordinary, as if waiting for an opportunity to multiply their kind. And in the vegetable kingdom, where no individual is ever the victim of desire or passion, annuals, if prevented from flowering and seeding in their proper season, will live double, and sometimes triple, the usual time, till these functions be somehow performed, and then die. But when all the organs are fully evolved, and have discharged, or have continued for the usual time capable of discharging, those offices for which they were intended; dissolution commences, the absorbing organs begin gradually to lose their tone, and the re-absorbents carry off more from the solids than what they receive in the way of nutrition: the irritable fibre then becomes rigid; the membranes and cartilages begin to ossify; the bones grow harder; the small vessels collapse and disappear; the parts no longer pliant, obedient, as before, to the action of the heart, and death ensues.

"With regard to the period by which the life, the functions, and diseases of living bodies are frequently regulated, and which perhaps can sometimes be varied but not evaded, we use no imprudent language that, perhaps, can be used in the present state of physiological science, when we say with this of the Divine, That the God who formed us hath numbered our days, determined our duration, and prescribed the limits of our existence."

The ingenious Dr Barclay concludes his Treatise on Physiology, with a Table, giving a summary view of the whole system, by way of supplement to that of M. D'Azyr above quoted, *Introd.* p. 500. The following Table exhibits the substance of the Doctor's Summary View, compressed within smaller bounds, and in a little more intelligible by ordinary readers:

1. Perspiration. Some living bodies have respiratory organs, 1. Diffused through the whole system: 2. Confined to one place: 3. Situated externally: 4. Situated internally: 5. In the course of circulation: 6. Not in the course of circulation: 7. Within or without the course of circulation at pleasure: 8. Without tracheæ. With tracheæ ramified thro' the system, where the respiratory organs are generally diffused: With tracheæ not ramified through the system, where the respiratory organs are confined: With tracheæ formed by rings. 12. With tracheæ formed by segments of rings on one side and a membrane on the other: 13. With tracheæ formed by continuous rings, running spirally [illegible]

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screw: 14. With tracheæ admitting air by one entrance: 15. With ditto admitting it by several entrances: 16. With tracheæ wholly concealed in the body: 17. With ditto partly projecting from it: 18. With tracheæ opening at the head: 19. With ditto opening at the oppoſite extremity: 20. With tracheæ opening on one ſide: 21. With ditto opening on both ſides.

II. DIGESTION. 1. Some living bodies have an alimentary canal, 1. Without teeth: 2. With teeth in the mouth: 3. With teeth in the ſtomach: 4. With ſtones or artificial teeth in the ſtomach: 5. With glands in the mouth for ſecreting a liquor to be mixed with the food: 6. With pouches in the mouth, where the food is kept and nouriſhed: 7. With a ſac or bag, where the food is kept and moiſtened: 8. With a membranous ſtomach: 9. With a muſcular ſtomach: 10. With an intermediate ſtomach: 11. Without a cœcum or blind gut: 12. With a cœcum: 13. With two cœca: 14. With 3 cœca: 15. With 4 cœca; all of which in laſt, as well as ruminating ſtomachs and the œſophagus, have anti-periſtaltic motions: 16. With one entrance or mouth: 17. With many entrances by abſorbents.

2. DIGESTION. 1. Plants have many alimentary canals: 2. Some polypes have alimentary canals that branch thro' the body: 3. The alimentary canals of plants, of ſome polypes, and worms, diſtribute the fluids without the aid of circulating ſyſtem.

3. ABSORPTION. Performed, 1. By veſſels proceeding from the alimentary canal: 2. By veſſels proceeding from the cavities: 3. By veſſels beginning from the ſurface: 4. By veins in the penis and placenta: 5. By re-abſorbents originating in all parts of the ſyſtem.

4. CIRCULATION. 1. Some living bodies have no circulating ſyſtem: 2. Some have a circulating ſyſtem with one heart: 3. Some have a circulating ſyſtem, with a heart for diſtributing the blood to the reſpiratory organs, and an artery for diſtributing it thro' the ſyſtem: 4. Some have a circulating ſyſtem with one heart for the reſpiratory organs, and one for the ſyſtem, both in one ſide: 5. Some have a circulating ſyſtem with two hearts for the reſpiratory organs, and two for the ſyſtem: 6. A circulating ſyſtem with a pulmonary heart, for the reſpiratory organs but no courſe of circulation: 7. A circulating ſyſtem, with a pulmonary heart within or without any courſe of circulation: 8. A circulating ſyſtem with a heart ſituated in the breaſt: 9. A circulating ſyſtem with a heart near the head: 10. Diſtributing with a heart in the oppoſite extremity.

5. NUTRITION. The food is prepared, 1. In the Alimentary Canal: 2. By the Lacteals: 3. By the reſpiratory organs: 4. By the circulating ſyſtem: 5. By the cellular membrane: 6. By the glands: and, 7. By the ſeveral parts in which it becomes finally aſſimilated".

6. SECRETION. Performed, 1. By veſſels: 2. By exhaling veſſels: 3. By excretory organs: 4. By organic pores: 5. By glands: And, 6. By all the parts of which the ſyſtem is compoſed.

7. INTEGUMATION. Some living bodies have integuments, which are, 1. Scaly: 2. Shelly: 3. Membranous: 4. Corneous; 5. Cretaceous: 6. Ligneous: 7. Covered with down: 8. Covered with hair: 9. Covered with prickles: 10. Covered with feathers: 11. Covered with a viſcid matter: 12. Which change their colour: 13. Which change their covering: 14. Which are changed themſelves.

VIII. IRRITABILITY. The irritable principle affected, 1. By ſtimulants inviſible: 2. By ſtimulants unknown: 3. By ſtimulants unthought of: 4. By the nervous influence: 5. By Light: 6. By heat: 7. By moiſture: 8. By Electricity: 9. By Salts: 10. By Gaſes: 11. By bodies that act mechanically.

IX. MOTION. Locomotion performed, 1. By legs: 2. By wings: 3. By fins: 4. By the tail: 5. By organs which fall not properly under theſe deſcriptions: 6. By the ſpringineſs of the body, or of ſome part of it. 7. By contrivances which fit living bodies for being moved by foreign agents.

X. HABIT Accomodates with reſpect to, 1. Reſpiration: 2. Digeſtion: 3. Abſorption: 4. circulation: 5. Nutrition: 6. Secretion: 7. Integumation: 8. Irritability: 9. Motion: 10. Transformation: 11. Generation: 12. Sleep: 13. Death: 14. Form: 15. Size: 16. Climate: 17. Propenſity: 18. The Healing of parts that are morbid: 19. The renewal of thoſe that are broken off.

XI. TRANSFORMATION takes place, 1. By a change of proportion among the parts: 2. By a change of their form: 3. By throwing off old parts: 4. By an addition of new ones of a different uſe, ſtructure, and form: 5. By a change of the whole form together: 6. By a change of qualities, propenſities, and manners.

XII. GENERATION. Performed, 1. By the temporay union of two ſexes: 2. By the ſpontaneous ſeparation of parts: 3. By organs ſituated in the breaſt: 4. By organs in the ſides: 5. By organs near the head: 6. By organs in the oppoſite extremity: 7. By an intrant organ of the male, and a recipient organ of the female: 8. By an intrant organ of the female, and a recipient organ of the male: 9. By the ſtamina and piſtils of flowers: 10. By the ſeminal ſecretion of the male thrown into the organs of the female: 11. By ditto ſprinkled at the entrance of the female organs: 12. By ditto thrown upon them from a diſtence: 13. By ditto tranſported to them by the winds: 14. By ditto ſprinkled on the embryo after emiſſion: 15. By ditto diſſolved in a fluid ſecreted by the female, before it can rightly perform its office: 16. By ditto diſſolved in water: 17. By ditto diſſolved ſometimes in air, as an the dicœcious plants, where it probably acts like an aroma. All living bodies are exhauſted after performing the act of generation; and many of the inferior plants and animals begin immediately to ſicken and decay.

XIII. SLEEP. Natural Sleep is occaſioned, 1. By quietneſs: 2. By the abſence of ſtimuli: 3. By the ſameneſs of ſtimuli when long continued: 4. By deficient aſſimilation: 5. By deficient irritability, which is owing ſometimes to the weakneſs, inattention, or confined powers of the mental principle.

XIV. DEATH happens naturally to ſome ſpecies of living bodies, 1. After hours: 2. After days: 3. After weeks: 4. After months: 5. After ſeaſons: 6. After years: 7. Not till after centuries

PHY-

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* PHYSY. *n. f.* I ſuppoſe the ſame with *fuſee*. See FUSEE.—Some watches have ſtrings and *phyſies*, and others none. *Locke*.

PHYTEUMA, in botany, HORNED RAMPIONS, a genus of the monogynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 29th order, *Campanaceæ*.

* PHYTIVOROUS. *adj.* [φύτον and *voro*, Lat.] That eats graſs or any vegetable.—Hairy animals, with only two large foreteeth, are all *phytivorous*. *Ray*.

* PHYTOGRAPHY. *n. f.* [φύτον and γράφω.] A deſcription of plants.

PHYTOLACCA, POKEWEED, or AMERICAN NIGHTSHADE, in botany, a genus of the decagynia order, belonging to the decandria claſs of plants; and in the natural method, ranking in the 54th order, *Miſcellaneæ*. It grows naturally in Virginia. It hath a thick, fleſhy, perennial root, divided into ſeveral parts as large as middling parſneps. From this riſe many purpliſh, herbaceous ſtalks, about an inch thick, and 6 or 7 feet long, which break into many branches, irregularly ſet with large, oval, ſharp-pointed leaves, ſupported on ſhort foot-ſtalks. Theſe at firſt are of a freſh green colour, but as they grow old they turn reddiſh. At the joints and diviſions of the branches come forth long bunches of ſmall bluiſh-coloured flowers, conſiſting of 5 concave petals each, ſurrounding 10 ſtamina and 10 ſtyles. Theſe are ſucceeded by round depreſſed berries, having 10 cells, each containing a ſingle ſmooth ſeed. In Virginia and other parts of America the inhabitants boil the leaves, and eat them in the manner of ſpinach. They are ſaid to have an anodyne quality, and the juice of the root is violently cathartic. The ſtems when boiled are as good as aſparagus. The Portugueſe had formerly a trick of mixing the juice of the berries with their red wines, to give them a deeper colour; but as it was found to debaſe the flavour and to make the wine deleterious, the king of Portugal ordered all the ſtems to be cut down yearly before they produced flowers, to prevent any further adulteration. The ſame practice was common in France till it was prohibited by an edict of Lewis XV. and Lewis XVI. under pain of death. This plant has been ſaid to cure cancers.

(1.) * PHYTOLOGY. *n. f.* [φύτον and λέγω.] The doctrine of plants; botanical diſcourſe.

(2.) PHYTOLOGY. See BOTANY, and MATERIA MEDICA.

PHYTON, a general of the people of Rhegium, againſt Dionyſius, the tyrant of Sicily. He was taken by the enemy, and tortured, and his ſon was thrown into the ſea; A.A.C. 387. See SYRACUSE.

PHYXIUM, an ancient town of Elis.

PI, a town of China, in Se-tchuen, of 3d rank.

PIA, or PIALIA, feſtivals inſtituted in honour of Adrian, by the emperor Antoninus Pius. They were celebrated at Puteoli on the 2d year of the Olympiads.

PIABA, in ichthyology, is a ſmall freſh water fiſh, caught in all the rivers and brooks in the Brazils, and in ſome other parts of America. It is about the bigneſs of the common minnow; is well taſted, and much eſteemed by the natives.

PIABUCU, in ichthyology, an American fiſh eaten in many places by the natives. It is ravenous and ſo greedy of blood, that if a perſon goes into the water with a wound in any part of the body, the piabucu will make up to it to ſuck the blood. It ſeldom exceeds 4 inches in length.

PIACENZA. See PLACENTIA.

* PIACLE. *n. f.* [*piaculum*, Lat.] An enormous crime. A word not uſed.—To tear the paps that gave them ſuck, can there be a greater *piacle* againſt nature? *Howel's Engl. Tears*.

* PIACULAR. } *adj.* [*piacularis*, from *pia-*
* PIACULOUS. } *lum*, Lat.] 1. Expiatory, having the power to atone. 2. Such as requires expiation.—It was *piaculous* unto the Romans to pair their nails upon the nundinæ. *Brown*. Criminal; attrociouſly bad.—While we think ſo *piaculous* to go beyond the ancients, we moſt neceſſarily come ſhort of genuine antiquity and truth.

PIADELLA, a town of the Italian republic, in the dep. of the Lario, diſtrict of Como, and late duchy of Milan; 20 miles N. of Como, and 5 S. of Gravedona.

To PIAF. *v. n.* } in horſemanſhip. See
PIAFING. *part. n. f.* } HORSEMANSHIP, §
VI.

PIALIA. See PIA.

PIALITZ, a river of Ruſſia, which runs into the White Sea, near Pialitza.

PIALITZA, a town of Ruſſia, in Archangel, on the coaſt of the White Sea, 100 miles N. of Archangel. Lon. 55. 30. E. Ferro. Lat. 66. 10. N.

PIALNY, a town of Hindooſtan, in Dindigul, 23 miles WNW. of Dindigul, and 48 SE. of Coimbetore.

(1.) * PIA MATER. *n. f.* [Lat.] A thin and delicate membrane, which lies under the dura mater, and covers immediately the ſubſtance of the brain.

(2.) PIA MATER. See ANATOMY, *Index*.

(1.) PIANA, an iſland near the coaſt of Sardinia; 2 miles E. of St Pietro.

(2.) PIANA, a town of Corſica, 9 m. W. of Vico.

(3.) PIANA, a river of Ruſſia, which runs into the Sura, near Yadrin, in Kazan.

PIANEG, a town of Ruſſia, in Viatka.

PIANELLO, a town of the French republic, in the iſle and dep. of Corſica; 18 miles E. of Corte.

* PIANET. *n. f.* [*picus varius*.] 1. A bird; the leſſer wood-pecker. *Bailey*. 2. The magpie. This name is retained in Scotland.

PIANEZA, or } a town and caſtle of the Impe-
PIANEZZA, } rial French republic, in the dep. of the Po, and late prov. of Piedmont, on the Doria; 4 miles W. of Turin, and 10 NE. of Rivalta.

PIANISSIMO, *adv.* in muſic, very ſoft.

PIANKASHAWS, a nation of N. American Indians, who reſide in the North-Weſtern Territory, on the banks of the Wabaſh. They have 600 warriors.

PIANKATUNK, or } a river of Virginia, which
PIANKITANK, } riſes in Eſſex county, and runs SE. into the Cheſapeak, oppoſite Gwyn's Iſland. It is navigable for 8 miles.

(1.) PIANO, *adv.* [Italian.] in muſic, ſoftly.

(2.)

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(2.) PIANO DELLE CORTE, a town of Naples.
(3.) PIANO FORTE, *n. ſ.* an improved ſpecies of ſpichord. The only difference between a harpſord and a Piano Forte is that the keys of the er are ſtruck by mallets covered with leather, l the former by quills.
4.) PIANO PICOLA, a town of Naples, in Caata; 2 miles W. of Vieſte.
PIANOSA, or } an iſland in the Tuſcan ſea,
PIANOZA, } near the coaſt of Etruria, 6 m. of Elba; anciently called PLUNATIA, and d as a place of exile. It is level and low, ince the name. Lon. 10. 34. E. Lat. 42. N.
PIANRIAS, a nation of N. American Indi- who reſide in the North-Weſtern Territory, he banks of the Illinois. They have 400 war-
PIARA, a town of Peru, 40 miles from Paita. 7. 0 N.
(1.) PIASANSKOI, NIZNEI, or NEW, a town uſſia, in Toboliſk, near the Frozen Ocean, miles N. of Turuchank. Lon. 105° E. of Fer- Lat. 69. 16. N.
2.) PIASANSKOI, VERSCHNEI, or OLD, a town uſſia in Toboliſk, 460 miles N. of Turuchank. 105° E. Ferro. Lat. 68. 30. N.
PIASKY, a town of Poland, in Lublin.
PIAST. See PIASTUS.
(1.) * PIASTER. *n. ſ.* [*piaſtra*, Italian.] An n coin, about five ſhillings ſterling in value.
PIASTER, or } See MONEY, § 9; under
PIASTRE, } SPAIN.
PIASTUS, or PIAST, a native of Poland, the f Coſſiſco, or Koſſiuſko, a citizen of Cruſ- who, from the ſtation of a wheel-wright, was to the throne of the duchy or kingdom of d, about A. D. 830, on the death of Popiel Different fabulous legends are told, by the of Cracow, Guagnini, and other hiſtorians t age, of the cauſe of this promotion; ſuch , in the midſt of a famine, he had entertain- *angels*, or at leaſt two *pilgrims*, very hoſ- ; who, in return, enabled him miraculouſ- ſupply the wants of the people; from all we may gather, that Piaſt had become po- by his liberality in a time of ſcarcity. All ans agree, that he governed with ſo much and clemency, that the Poles had no rea- regret their choice. He died at Gneſna, er he had removed the court from Cruſwitz, as ſucceeded by his ſon, Ziemovitus.
PIATEK, a town of Poland, in Lenczicz.
PIATTA, a town of Naples, in Calabria Ultra; SW. of Girace.
PIATIGER, a town of Ruſſia, in Viatka.
PIATNITZKA, a town of Ruſſia, in Toboliſk, es NNW. of Einiſeiſk.
PIATTI. See PATTI, N° 1.
PIATZINA, a town of Ruſſia, in Olonetz.
PIAVA, or } a river of Tirol and Maritime
PIAVE, } Auſtria, which riſes in the Tirol- ountains, near the Julian Alps, croſſes the ies of Feltrino, Friuli and Treviſana, and nto the Adriatic, 16 miles NE. of Venice. its banks, Bonaparte defeated a party of the Auſtrians in Aug. 1796, and took 1000 priſoners.
PIAVESELLA, a river of Maritime Auſtria, which runs into the Sile at Trevigio.
PIAVO, a lake of Ruſſia, in Archangel.
PIAZIDA, a river of Ruſſia, which riſes from Lake Piazinſkoi, and runs into the Kargſkoi ſea at Old Piazinſkoi.
(1.) PIAZINSKOI, a lake of Ruſſia, in Toboliſk, 252 miles N. of Turuchank. Lon. 107. 0. E. Ferro Lat. 69. 40. N.
(2, 3.) PIAZINSKOI, OLD and NEW, two towns of Ruſſia, in Toboliſk, near the mouth of the Piazida. Lon. 105. 0. E. Ferro. Lat. 73. 30. N.
(1.) * PIAZZA. *n. ſ.* [Italian.] A walk under a roof ſupported by pillars.—He ſtood under the *piazza*. *Arb. and Pope's Scriblerus.*
(2.) PIAZZA, in building, popularly called *piache*, an Italian name for a portico, or covered walk. The word literally ſignifies a broad open place or ſquare; whence it alſo became applied to the walks or porticoes around them.
(3.) PIAZZA, Jerome Bartholomew, an Italian, originally a Roman Catholic, a Dominican Friar, and a judge in the Inquiſition, but turning Proteſtant, he came to England, and taught Italian and French at Cambridge. He publiſhed *An Account of the Inquiſition, and its proceedings as practiſed in Italy*: With an Extract out of an Authentic Book of the Roman Legends: Lond. 1722. He married a French Proteſtant, by whom he had 3 children; and died at Cambridge in 1745; with a good character.
(4.) PIAZZA, in geography, a town of Naples, in Principato Citra, 13 miles ENE. of Salerno.
(5.) PIAZZA, a town of Sicily, in Noto, nearly in the centre of the iſland, containing 18,000 inhabitants, 15 miles NW. of Calata Gironne, and 16 S. of Caſtro Giovanni.
PIAZZOLA, a town of the French republic, in the iſland and dep. of Corſica; 3 miles ESE. of Porta.
PIBERSTAIN, a town of Germany, in Auſtria; 10 miles W. of Freyſtatt.
PIBRAC, a town of France, in the dep. of Upper Garonne; 9 miles W. of Toulouſe.
PIBROCH, ſays the late Dr James Beattie, is a ſpecies of tune peculiar to the Highlands and Weſtern Iſles of Scotland. It is performed on a bagpipe, and differs totally from all other muſic. Its rythm is ſo irregular, and its notes, eſpecially in the quick movement, ſo mixed and huddled together, that a ſtranger finds it almoſt impoſſible to reconcile his ear to it, ſo as to perceive its modulation. Some of theſe pibrochs, being intended to repreſent a battle, begin with a grave motion reſembling a march, then gradually quicken into the onſet; run off with noiſy confuſion and turbulent rapidity, to imitate the conflict and purſuit; then ſwell into a few flouriſhes of triumphant joy; and perhaps cloſe with the wild and ſlow wailings of a funeral proceſſion. See MUSIC, § 15.
(1.) PIC, a navigable river of N. America, which runs into Lake Superior; in Lon. 89°. 41'. 6". W. and Lat. 48°. 36'. 11". N. The chief portage is in Lat. 48. 41.

(2.) PIC

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(2.) PIC DEL ALVERDI, or } a high iſland in
(3.) PIC DE L'ETOIL, } the form of a ſugar loaf, lying N. of Aurora Iſland, diſcovered by Bougainville in May 1768.

(1.) PICA, or PYE, in eccleſiaſtical matters, had formerly the ſame ſenſe as ORDINAL, meaning a table or directory, pointing out the order in which the devotional ſervices appointed for different occaſions were to be performed. It is derived from πιναξ, a contraction of πινακιδιον, *a table*; or from *litera picata*, a great or black letter at the beginning of a new order in the prayers. It was uſed in a ſimiliar ſenſe by officers of civil courts, who called their catalogues or indexes of things contained in the rolls of their courts, the *pyes*.

(2.) * PICA. *n. ſ.* Among printers, a particular ſize of their types or letters. It is probably ſo called from having been firſt uſed among us in printing the *pye*, an old book of liturgy.

(3.) PICA, in medicine, a depravation of appetite, which makes the patient long for what is unfit for food, or incapable of nouriſhing; as chalk, aſhes, coals, plaſter, lime, &c. See MEDICINE, *Index*.

(4.) PICA, in ornithology. See CORVUS, N° 12.

(5.) PICA, in geography, a ſea port of Peru, on a high land, 36 miles N. of the Lora, and 15 S. of Carapoucha.

(6.) PICA DE REGALADOS, a town of Portugal, in Entre-Duero-e-Minho; 4½ miles NNE. of Braga.

(7, 8.) PICA MARINA, in ornithology. See ALCA, N° 5; and HÆMATOPUS.

PICÆ, PIES, in ornithology, the 2d order of birds in the Linnæan Syſtem. They are thus characteriſed by Mr Kerr:—"The bill is ſharp and convex on its upper ſurface. The legs are ſhort, ſtrongiſh, and of different kinds, ſome climbers, and ſome fitted for walking, *i. e.* having no back toe. The body is firmly conſtructed. The birds of this order live on various kinds of food, and are moſtly unfit for food. They pair, build their neſts on trees, and the male feeds the female during incubation." (*Animal Kingd.* vol. I. p. 418.) There are 30 genera. See ORNITHOLOGY, *Sect.* IV.

PICARA, a large province of South America, in New Granada, bounded on the E. by the Andes.

(1.) PICARD, a native of the Netherlands, who founded the Sect, called *Picards*. See PICARDS.

(2.) PICARD, John, an able mathematician, one of the moſt learned aſtronomers of the 17th century, born at Fleche. He became prieſt and prior of Rillie, in Anjou. Going to Paris, he was, in 1666, appointed aſtronomer to the Academy of Sciences. In 1671, he was ſent, by order of the king, to the caſtle of Uraniburg, built by Tycho Brahe in Denmark, to make aſtronomical obſervations there; and from thence he brought the original MSS. written by Tycho Brahe, which are the more valuable, as they differ in many places from the printed copies, and contain a book more than has yet appeared. He made important diſcoveries in aſtronomy; and was the firſt who travelled through France, to meaſure a degree of the meridian. His works are, 1. A treatiſe on levelling. 2. Fragments of dioptrics. *Experimenta circa aquas effluentes.* 4. *De menſura.* 5. *De menſura liquidorum & aridorum.* 6. A voyage to Uraniburg, or aſtronomical obſervations made in Denmark. 7. Aſtronomical obſervations made in ſeveral parts of France, &c. Theſe, and ſome other of his works, which are much eſteemed, are in the Memoirs of the Academy of Sciences; vols. 6. and 7.

PICARDS, a religious ſect which aroſe in Bohemia in the 15th century. PICARD, the founder of this ſect, drew after him a number of men and women, pretending he would reſtore them to the primitive ſtate of innocence wherein man was created; and accordingly he aſſumed the title of the *New Adam*. Under this pretence he indulged his followers in all kinds of impurity, ſaying that therein conſiſted the liberty of the ſons of God; and that all thoſe not of their ſect were in bondage. He firſt publiſhed his opinions in Germany and the Netherlands, and perſuaded many people to go naked, whom he named ADAMITES. After this, he ſeized on an iſland in the river Lauſnecz, ſome leagues from Tabor, the head quarters of Ziſca, where he fixed himſelf and his followers. His women were common, but none were allowed to enjoy them without his permiſſion: ſo that when any man deſired a particular woman, he carried her to Picard, who gave him leave in theſe words, *Go, increaſe, multiply, and repleniſh the earth.* At length, being by Ziſca, general of the Huſſites, (famous for victories over the emperor Sigiſmund,) and their abominations, marched againſt them, made himſelf maſter of their iſland, and put them all to death except two; whom he ſpared, that he might learn their doctrine. Such is the account of various writers, relying on the authorities of Aeneas Sylvius and Variilas, have given of the Picards, who appear to have been a party of the VAUDOIS, that fled from perſecution in their own country, and ſought refuge in Bohemia. But it is highly probable that the whole is a calumny invented to diſgrace the Picards, becauſe they diſſerted the communion of the church of Rome. Laſitius informs us, that Picard, with 40 other perſons, beſides women and children, ſettled in Bohemia in 1418. Balbinus the Jeſuit, in his *Epitome Rerum Bohemicarum*, lib. ii. gives a particular account, and charges on the Picards all the crimes aſcribed to them by Sylvius. Schlick, ſecretary of Ladiſlaus, king of Bohemia, in letters to Eraſmus, gives a particular account of the Picards, wherein he repreſents their principles as no other than thoſe of the Vaudois. M. de Beauſobre has ſhown that they were of the ſame ſect, though under different denominations. The Vaudois were ſettled in Bohemia in 1178, where ſome of them adopted the rites of the Greek, and others thoſe of the Latin church. On the commencement of the national troubles in Bohemia, on account of the oppoſition to the papal power (ſee MORAVIANS), the Picards openly avowed their religious opinions; and

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d a conſiderable body in an iſland by the river auſneez, in the diſtrict of Bechin, and recurring arms, were defeated by Ziſca.

PICARDY, a ci-devant province of France, ounded on the N. by Hainault, Artois, and the raits of Calais; on the E. by Champaigne; on e S. by the Ille of France; and on the W. by ormandy and the Engliſh Channel. The name not more ancient than the 12th century. It is ng and narrow, being uſually compared to a nt arm; and in this figure is nearly 150 miles ng, but not above 40 broad, and in many pla- not above 20. It is generally level, and pro- ces wine, fruit of all kinds, plenty of corn, and eat quantities of hay; but wood being ſcarce, oſt of the inhabitants burn turf. They have, weſer, ſome pit coal. It was united to the own of France in the year 1643; and contains out 533,000 citizens. Its principal rivers are e Somme, Oiſe, Canche, Lauthie, Lys, Aa, arpe, and the Deule. Its ſituation on the ſea aſt, its many navigable rivers and canals, with e induſtry of the inhabitants, render it the ſeat a flouriſhing trade. In it are made beautiful ſtuffs, woolien ſtuffs, coarſe linen, lawn, and p; it alſo carries on a large trade in corn and coal. The fiſheries on this coaſt are alſo ve- advantageous. This province was divided in- Upper, Middle, and Lower Picardy; but now ms the department of the SOMME, and part thoſe of the AISNE, and the STRAITS OF CA- IS. AMIENS is the capital.

PICAROON. *n. ſ.* [from *picare*, Italian.] A ber; a plunderer.—Corſica and Majorca in all s have been the neſts of *picaroons*. *Temple's ſcellanies*.

PICART, Bernard, a celebrated engraver, ſon Stephen Picart, alſo a famous engraver, was n at Paris in 1673. He learned the elements his art from his father, and ſtudied architec- e and perſpective under Sebaſtian le Clerc. As embraced the reformed religion, he ſettled in land, where his genius produced thoſe maſter- ces which made him eſteemed the moſt inge- us artiſt of his age. A multitude of books are bellifhed with plates of his engraving. He di- in 1733.

PICAUVILLE, a town of France, in the dep. the Channel; 9 miles NW. of Carentan.

PICAWEE, an Indian town of the United tes, in the North Weſtern Territory, on the eat Miami, 75 miles above its mouth; where s only 30 yards broad, though navigable by ded batteaux 50 miles higher up.

PICCAGE. *n. ſ.* [*piccagium*, low Lat.] Mo- paid at fairs for breaking ground for booths. *ſwort'h*.

PICCINO, a town of the Italian republic, in dep. of the Serio, diſtrict and late prov. of ſcamo, ſeated in the valley of Taleggio, of ich it is the capital.

1.) PICCOLOMINI, Æneas Sylvius. See PI- II.

2.) PICCOLOMINI, Alexander, Abp. of Patras, s born at Sienna, about 1508, of an illuſtrious d ancient family, originally from Rome. He mpoſed for the theatre, and was equally diſ- tinguiſhed for genius and virtue. His charity was very great, and was much exerted in favour of men of letters. He wrote many works in Italian. The principal are, 1. Various Dramatic Pieces. 2. A Treatiſe on the Sphere. 3. A Theory of the Planets. 4. A Tranſlation of Ariſtotle's Art of Rhetoric and Poetry, in 4to. 5. A Syſtem of Morality; Venice, 1575, in 4to; tranſlated into French by Peter de Larivey, in 4to; Paris, 1581. He was the firſt who wrote in the Italian language upon philoſophical ſubjects. He died at Sienna, 12th March, 1578, aged 70. A catalogue of his works may be ſeen in the Typographical Dictionary.

(3.) PICCOLOMINI, Francis, of the ſame family, was born in 1520, and taught philoſophy with ſucceſs, for 22 years, in the moſt celebrated univerſities of Italy, and afterwards retired to Sienna, where he died, in 1604, aged 84. His works are, 1. Commentaries upon Ariſtotle; Mentz, 1608, 4to. 2. *Univerſa Philoſophia de Moribus*; Venice, 1583, fol. He laboured to revive the doctrine of Plato, and imitated his manners. He had for his rival the famous James Zabarella, whom he excelled in facility of expreſſion and elegance of language; but to whom he was much inferior in point of argument.

(4.) PICCOLOMINI, James, whoſe proper name was *Ammanati*, took that of *Piccolomini*, in honour of his patron Pius II. He was born near Lucca, in 1422. He became Bp. of Maſſa, afterwards of Freſcati; a cardinal in 1461, under the title of *de Purvie*; and died in 1479, aged 57, of an indigeſtion of figs. He left 8000 piſtoles in the bankers hands, which Pope Sixtus IV. claimed; and of which he gave a part to the Hoſpital of the Holy Ghoſt. His works, which conſiſt of ſome Letters, and a Hiſtory of his own time, were printed at Milan, in 1521, in folio. His hiſtory, entitled *Commentaries*, commences the 18th June, 1464, and ends the 6th Dec. 1469. They are a Sequel of Pope Pius II.'s Commentaries, which end with 1463.

(5.) PICCOLOMINI, Octavius, of Arragon, duke of Amalfi, prince of the Empire, an imperial general, and knight of the Golden Fleece, was born in 1599. He firſt bore arms among the Spaniſh troops in Italy. He afterwards ſerved under Ferdinand II. who ſent him to the relief of Bohemia, and gave him the command of the imperial troops in 1634. He ſignalized himſelf at the battle of Nortlingue, and made Marſh. de Chatillon raiſe the ſiege of St Omer. He defeated the Marquis Fenquieres in 1639: nor did the loſs of the battle of Wolfenbuttel, in 1651, impair his glory. He died on the 10th Aug. 1656, aged 57, with the character of an active general. The celebrated Caprara was his nephew.

PICENI, or } the ancient inhabitants of PICE-
PICENTES, } NUM, (*Cicero, Livy,*) who were originally a colony of Sabines. They were different from the PICENTINI, on the Tuſcan ſea, though called ſo by the Greeks; but Ptolemy calls them *Piceni*, as does alſo Pliny. Their territory at this day is ſuppoſed to form the greateſt part of the March of Ancona. *Cluverius*.

PICENTIA, the capital of the PICENTINI, who

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inhabited the AGER PICENTINUS. *(Strabo, Pliny.)*

PICENTINI, an ancient people of Italy, who inhabited the AGER PICENTINUS. The Greeks commonly confound the *Picentini* and *Picentes*, but the Romans diſtinguiſh them. The former had only two towns, named *Silernum* and *Picentia*; the ſituation of both uncertain: only Pliny ſays the latter ſtood within land, at ſome diſtance from the ſea: Now thought to be *Bicenza*, *(Holſtenius)*, in the Principato Citra of Naples.

PICENTINUS AGER, an ancient diſtrict of Italy, on the Tuſcan Sea, extending from the *Promontorium Minervæ*, the S. boundary of Campania on the coaſt, to the Silarus, the N. boundary of Lucania, reaching within land as far as the Samnites and Hirpini.

PICENTIUM AGER, PICENUM, or PICENUS AGER, } a territory of Italy, lying to the E. of Umbria, from the Apennine to the Adriatic; on the coaſt, extending from the river Aeſis on the N. as far as the *Prætutiani* to the S. In the upper or N. part of their territory, the Umbri excluded them from the Apennine, as far as Camerinum; but in the lower or ſouthern part, they extended from the Adriatic to the Apennine. It was very fertile, and very populous. *Cæſ. Plin. Florus, Cic. Sall. Liv. Tac. Varro.* See AGER PICENUS.

PICHERIE, a town of France, in the dep. of Aude; 9 miles E. of Carcaſſone.

PICHFORD, or PITCHFORD, a town of Salop, on the SE. ſide of Shrewſbury, near Condover. It is noted for a ſpring of pitchy water (whence its name), on the top of which there always flows a ſort of liquid bitumen. Over moſt of the coal pits hereabouts, there lies a ſtratum of blackiſh rock; of which, by boiling and grinding, they make pitch and tar, and alſo diſtil an oil from it.

PICHINCHA, a mountain of Peru in Quito, in the prov. of Truxillo, famous for its great height, which is eſtimated at 2432 toiſes above the level of the ſea. It is, however, 1278 yards lower than the perpendicular height of Cotopaxi, and was formerly a volcano, but the crater on one of its ſides is now covered with ſand and calcined matter; ſo that at preſent neither ſmoke nor fire iſſue from it. When Don George Juan and Don Antonio de Ulloa were ſtationed on it for the purpoſe of making aſtronomical obſervations, they found the cold on the top of this mountain extremely intenſe, the wind violent, and they were frequently involved in ſo thick a fog, or cloud, that an object at 6 or 8 paces diſtance was ſcarcely diſcernible. The air grew clear, by the clouds moving nearer to the earth, and on all ſides ſurrounding the mountain to a vaſt diſtance, repreſenting the ſea with the mountain ſtanding like an iſland in the centre. When this happened, they heard the dreadful noiſe of the tempeſts that diſcharged themſelves on Quito and the neighbouring country. They ſaw the lightning iſſue from the clouds, and heard the thunder roll far beneath them. While the lower parts were involved in tempeſts of thunder and rain, they enjoyed a delightful ſerenity; the wind was abated, the ſky clear, and the enlivening rays of the ſun moderated the ſeverity of the cold. But when the clouds roſe, their thickneſs rendered reſpiration difficult: ſnow and hail fell continually, and the wind returned with all its violence; ſo that it was impoſſible entirely to overcome the fear of being, together with their hut, blown down the precipice on whoſe edge it was built, or of being buried in it by the conſtant accumulations of ice and ſnow. Their fears were likewiſe increaſed by the fall of enormous fragments of rocks. Though the ſmalleſt crevice viſible in their hut was ſtopped, the wind was ſo piercing that it penetrated through; and though the hut was ſmall, crowded with inhabitants, and had ſeveral lamps conſtantly burning, the cold was ſo great, that each individual was obliged to have a chafing diſh of coals, and ſeveral men were conſtantly employed every morning to remove the ſnow which fell in the night. By the ſeverities of ſuch a climate, their feet were ſwelled, and ſo tender, that walking was attended with extreme pain, their hands covered with chilblains, and their lips ſo ſwelled and chopt, that every motion in ſpeaking drew blood.

PICHMANSKOI, a town of Ruſſia in Olonetz, on lake Latcha; 32 miles SSW. of Kargopol.

PICIERNO, a town of Naples, in Baſilicata, 8 miles WNW. of Potenza.

PICIGITHONE. See PIZZIGHITONE.

PICIOTTI, a river of Naples, which runs into the ſea, 15 miles SE. of Reggio, in Calabria Ultra.

* PICK. *n. ſ.* [*pique*, French.] A ſharp pointed iron tool.—What the miners call chert and whern, the ſtone-cutters nicomia, is ſo hard, that the *picks* will not touch it. *Woodward.*

(1.) * *To* PICK. *v. a.* [*picken*, Dutch.] 1. To cull; to chuſe; to ſelect; to glean; to gather here and there. It has commonly *out* after it when it implies ſelection, and *up* when it means caſual occurrence.—

This fellow *picks up* wit as pigeons peas.

He hath *pick'd out* an act,
Under whoſe heavy ſenſe your brother's life
Falls into forfeit.
Out of this ſilence yet I *pick'd* a welcome.

—When men are ingenious in *picking out* circumſtances of contempt, they do kindle their anger. *Bacon.*—He ſhould out of theſe his enemies treaſures *pick* ſome fit occaſion of advantage. *Knolles's Hiſtory.*—

They muſt *pick* me *out* with ſhackles tir'd
To make them ſport with blind activity.

What made thee *pick* and chuſe her *out*?

—Men that have been *picked up* and relieved out of ſtarving neceſſities, afterwards conſpire against their patrons. *L'Eſtrange.*—He'd make a ſhift to *pick* it *up*. *L'Eſtrange.*—A painter would not be much commended, who ſhould *pick out* this or that vern from the whole Æneids. *Dryden.*—Imitate the bees, who *pick* from every flower that which they find moſt proper to make honey. *Dryden.* He that is nouriſhed by the acorns he *picked* up under

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under an oak in the wood, has appropriated them to himself. *Locke.*—He asked his friends about him, where they had *picked up* such a blockhead. *Spect.*—The will may *pick* and chuse among these objects. *Cheyne.*—

Deep thro' a miry lane she *pick'd* her way. *Gay.*

—Thus much he may be able to *pick out*, and willing to transfer into his new history. *Swift.*—

Heav'n, when it strives to polish all it can,
Its last, best work, but forms a softer man,
Picks from each sex, to make the fav'rite blest,
Your love of pleasure, our desire of rest. *Pope.*

To take up; to gather; to find industriously.—You owe me money, Sir John, and now you *pick* a quarrel to beguile me of it. *Shak.*—The king did this, to *pick* a quarrel to put him to death. *Bacon.*—There's not one circumstance in nature, but they shall find matters to *pick* a quarrel at. *L'Estrange.*—*Pick* the very refuse of those rarest fields. *Thomson.*—She has educated several poor children, that were *picked up* in the streets. *Law.* 3. To separate from any thing useless or noxious, by gleaning out either part; to clean by picking away filth.—

He could not stay to *pick* them in a pile
Of musty chaff. *Shak.*

It hath been noted by the ancients, that it is dangerous to *pick* one's ears whilst he yawneth. *Bacon.*—He *picks* and culls his thoughts for conversation. *Addison.* 4. To clean, by gathering gradually any thing adhering.—A dog expects, when master has done *picking* a bone. *More.*—You are not to wash your hands, till you have done your sallad. *Swift.* 5. [*Piquer*, Fr.] To pierce; to strike with a sharp instrument.—*Pick* an apple with a pin full of holes not deep, and rub it with spirits. *Bacon.*—In the face, a wart or dry pustule, heated by scratching or *picking* with nails, will terminate corrosive. *Wiseman.* 6. To strike with bill or beak; to peck.—The eye that mocketh at his father, the ravens of the valley shall *pick* out. *Prov.* xxx. 17. 7. [*Picare*, Ital.] To rob.—The other night I fell asleep in a, and had my pocket *pickt*; the house is a bawdy-house, they *pick* pockets. *Shak.*—They have a design upon your pocket, and the old conscience is used only as an instrument to do it. *South.* 8. To open a lock by a pointed instrument.—

Did you ever find
That any art could *pick* the lock? *Denham.*

To PICK *a hole in one's coat.* A proverbial expression for finding fault with another.

(1.) * *To* PICK. *v. n.* 1. To eat slowly, and by small morsels.—

Why stand'st thou *picking?* *Dryden.*

To do any thing nicely and leisurely.—

He was too warm on *picking* work to dwell. *Dryden.*

PICKAPACK. *adv.* [from *pack*, by a reduplication very common in our language.] In manner of a pack.—In a hurry she whips up her darling under her arms, and carries the other a *pickapack* upon her shoulders. *L'Estrange.*

PICKAXE. *n. s.* [*pick* and *axe.*] An axe not made to cut, but pierce; an axe with a sharp point.—Their tools are a *pickaxe* of iron, 17 inches long. *Carew.*—

I'll hide my master from the flies, as deep
As these poor *pickaxes* can dig. *Shak.*

Pioneers, with spade and *pickaxe* arm'd,
Forerun the royal camp, to trench a field. *Milton.*

* PICKBACK. *adj.* [corrupted perhaps from *pickpack.*] On the back.—

Mounted a *pickback* on the old. *Hudib.*

* PICKED. *adj.* [*piqué*, Fr.] Sharp; smart.—Let the stake be made *picked* at the top. *Mortimer's Husbandry.*

* *To* PICKEER. *v. a.* [*piccare*, Italian.] 1. To pirate; to pillage; to rob. *Ainsworth.* 2. To make a flying skirmish.—

No sooner could a hint appear,
But up he started to *pickeer.* *Hudibras.*

* PICKER. *n. s.* [from *pick.*] 1. One who picks or culls.—The *pickers* pick the hops into the hair-cloth. *Mortimer.* 2. A pickaxe; an instrument to pick with.—With an iron *picker* clear the earth out of the hills. *Mortimer.*

* PICKEREL. *n. s.* [from *pike.*] A small pike.

* PICKEREL-WEED. *n. s.* [from *pike.*] A water plant, from which pikes are fabled to be generated.—The pikes are bred, some by generation, and some not; as of a weed called *pickerel-weed.* *Walton.*

(1.) PICKERING, a pretty large town in the N. Riding of Yorkshire, 13 miles from Scarborough, and 225 from London; but belonging to the duchy of Lancaster, on a hill among the wild mountains of Blakemore; between the forest of Pickering on the N. and Pickering Common on the S. It is said to have been built 270 years before Christ, by *Peridurus*, a king of the Britons, who was buried here. It had once a castle, the ruins of which are still to be seen; to whose jurisdiction many of the neighbouring villages were subject: and the adjacent territory, commonly called Pickering-Lath, or the liberty or forest of Pickering, was given by Henry III. to his son Edmund, earl of Lancaster. A court is kept here for all actions under 40s. arising within the honour of Pickering. It is 26 miles NE. of York. Lon. 0. 38. W. Lat. 54. 15. N.

(2—4.) PICKERING FOREST, &c. See last article.

PICKERSGILL, an island in the S. Atlantic Ocean, near Cape Disappointment, in S. Georgia. Lon. 36. 58. W. Lat. 54. 41. S.

PICKERY, *n. s.* in Scots law, petty theft, or stealing things of small value.

(1.) PICKET, *n. s.* an out-guard posted before an army, to give notice of an enemy approaching.

(2.) PICKET, a punishment, where a soldier stands with one foot upon a sharp-pointed stake; the time of his standing is limited according to the offence.

(3.) PICKETS, in fortification, stakes sharp at one end, and sometimes shod with iron, used in laying out the ground, about 3 feet long; but, when used for pinning the fascines of a battery, they are from 3 to 5 feet long.

(4.) PICKETS, in artillery, are about five or six

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feet long, shod with iron, to pin the park lines, in laying out the boundaries of the park.

(5.) PICKETS, in the camp, are also stakes of about six or eight inches long, to fasten the tent cords, in pitching the tents; also, of about four or five feet long, driven into the ground near the tents of the horsemen, to tie their horses to.

(6.) PICKETS, in geography, a town of Virginia, 35 miles SSW. of Washington.

To PICKET, *v. a.* To torture by the Picket. See PICKET, N° 2.

(1.) * PICKLE. *n. f.* [*pekel*, Dutch.] 1. Any kind of salt liquor, in which flesh or other substance is preserved.—

Thou shall be whipt with wire, and pew'd in brine,
Smarting in lingring *pickle*. *Shak.*

—Some fish are gutted, split and kept in *pickle*. *Carew.*—He instructs his friends that dine with him in the best *pickle* for a walnut. *Spectator.*—A third sort of antiscorbuticks are called astringent; as capers, and most of the common *pickles* prepared with vinegar. *Arbuthnot.* 2. Thing kept in pickle. 3. Condition; state. A word of contempt and ridicule.—

How cam'st thou in this *pickle*? *Shak.*

—A physician undertakes a woman with sore eyes; his way was to dawb 'em with ointments, and while she was in that *pickle*, carry off a spoon. *L'Estrange.*—

Poor Umbra, left in this abandon'd *pickle*,
E'en sits him down. *Swift.*

(2.) PICKLE, (§ 1. *def.* 1.) or BRINE, is commonly composed of salt, vinegar, &c. sometimes with the addition of spices, wherein meat, fruit, &c. are seasoned.

(3.) * PICKLE, or *pightel*. *n. f.* A small parcel of land inclosed with a hedge, which in some countries is called a *pingle*. *Phillips.*

* *To* PICKLE. *v. a.* [from the noun.] 1. To preserve in pickle.—

Autumnal cornels next in order serv'd,
In lees of wine well *pickled* and preserv'd.
Dryden.

Nay, to keep friendship, they shall *pickle* you. *Dryden.*

2. To season or imbue highly with any thing bad: as, a *pickled* rogue, or one consummately villanous.

* PICKLEHERRING. *n. f.* [*pickle* and *herring*.] A jack-pudding; a merry-andrew; a zany; a buffoon.—Another branch of pretenders to this art, without horse or *pickleherring*, lie snug in a garret. *Spectator.*—The *pickleherring* found the way to shake him. *Spectator.*

* PICKLOCK. *n. f.* [*pick* and *lock*.] 1. An instrument by which locks are opened without the key.—We have found upon him, Sir, a strange *picklock*. *Shak.*—Scipio, having such a *picklock*, would spend so many years in battering the gates of Carthage. *Brown.*—It is the very *picklock* that opens the way into all cabinets. *L'Estrange.*—Thou raisedst thy voice to describe the powerful Betty, or the artful *picklock*. *Arbuthnot.* 2. The person who picks locks.

PICKMERE, a river of Cheshire.

PICKOUAGAMIS, a river of Canada, which rises from Lake Shabamoushwan, and runs into Lake St John.

* PICKPOCKET. } *n. f.* [*pick* and *pocket*, or *purse*.]
* PICKPURSE. } A thief who steals, by putting his hand privately into the pocket or purse.—I think he is not a *pick-purse*. *Shak.*—It is reasonable, when Esquire South is losing his money to sharpers and *pickpockets*, I should lay out the fruits of my honest industry in a law suit. *Arbuthnot.*—*Pickpockets* and highwaymen observe strict justice among themselves. *Bentley.*—

His fellow *pickpurse*, watching for a job, *Swift.*
Go drench a *pickpocket*, and join the mob. *Pope.*

* PICKTHANK. *n. f.* [*pick* and *thank*.] An officious fellow, who does what he is not desired; a whispering parasite.—

Many tales devis'd,
By smiling *pickthanks* and base newsmongers.
Shak.

With pleasing tales his lord's vain ears he fed,
A flatterer, a *pickthank*, and a lyer. *Fairfax.*—The business of a *pickthank* is the basest of offices. *L'Estr.*—If he be great and powerful, flatt and *pickthanks* generally provoke him to tyrannize over the innocent and the just. *South.*

* PICKTOOTH. *n. f.* [*pick* and *tooth*.] An instrument by which the teeth are cleaned.—If a gentleman leaves a *picktooth* case on the table after dinner, look upon it as part of your vails. *Swift.*

(1.) PICO, one of the AZORE ISLANDS, so called from a very high mountain in it, terminating like Teneriffe in a peak, and reputed equal to it in height. This island lies about 12 miles SW. of St George, 12 of Tercera, and about 9 SE. of Fayal. The circumference of the island is computed at about 15 leagues; and its most remarkable places are Pico, Lagoas, Santa Cruz, St Sebastian, Pesquin, San Rocko, Playa, and Magdalena; the inhabitants of which live wholly on the produce of the island, in great plenty and felicity. The cattle are various, numerous, and excellent in their several kinds: it is the same with the vine; and its juice, prepared into different wines, the best in the Azores. Besides cedar and other timber, they have a kind of wood which they call TEIXO, solid and hard as iron; and tinged, when finely polished, like a rich scarlet tabby, which colour it has in great perfection. The longer it is kept, the more beautiful it grows; hence it is, that the teixo tree is felled only for the king's use or by his order; and is prohibited from being exported as a common article of trade. Lon. 28. 21. W. Lat. 38. 29. N.

(2.) PICO, a lofty mountain in the above island, which gives name to it, filled with dismal dark caverns or volcanoes, which frequently vomit out flames, smoke, and ashes, to a great distance. At the foot of it, towards the E. is a spring of hot water, generally cold, but sometimes so heated with subterraneous fire, as to rush forth in torrents with a kind of ebullition like boiling water, equalling that in heat, and sending forth a stench of sulphureous fetid vapours, liquefied stones, minerals, and flakes of earth all on fire, in such quantities, and with such violence, as to have formed a kind of promontory vulgarly called *Asterios*, on the declivity of the coast, and at the

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ee of 1200 paces from the fountain. Such is account given by Ortelius.

3.) Pico, the capital of the above iſland.

4.) Pico, a mountain of Spain, on the confines New and Old Caſtile and Eſtremadura.

5.) Pico, or Puerto de Pico, a town of Spain, Old Caſtile, on a mountain, near the ſource of Tormes.

6.) Pico Marina, a ſea fiſh common at Kongo Africa, which derives its name from the ſimilarity its mouth to the beak of a wood-pecker. It is large ſize, and prodigious ſtrength, has 4 fins its back, 3 under its belly, and one on each ſide its head; its tail is large and forked, by which uts the waves with ſurpriſing force and veloci-

It is at war with every fiſh that ſwims, and h every thing it meets in its way, without be- intimidated by the largeſt veſſels; a ſurpriſing ance of which intrepidity, we are told by ſome ſionaries, whoſe ſhip was attacked by one of m, near theſe coaſts, in the dead of night. The ence of the ſhock which it gave to the veſſel ckly awakened the captain and the reſt of the ple; who immediately ran to the ſhip's ſide, re they perceived, by moon light, this huge nſter faſtened by its forehead to the veſſel, and ting the ſtrongeſt efforts to diſengage itſelf; m which ſome of them tried to pierce him with r pikes, but he got off before they could ac- pliſh their aim. On the next morning, upon ing that ſide of the veſſel, they found, about et below the ſurface of the water, a piece of ony ſnout ſtuck faſt into the wood, and two hree inches of it projecting outwards. They nt preſently after to viſit the inſide of the ſhip, diſcovered about 5 or 6 inches more of the nt of the horn which had penetrated th.ough plank.

).) Pico Sacro, a mountain of Spain in Gali- 9 miles S. of St Jago.

).) Pico Teneriffe, a mountain of Barba- s; 1 mile S. of Cuckold's Point.

ICOLATA, a fort of Eaſt Florida, on the St n, 3 miles from Fort Poopoa, and 27 from St uſtine.

ICOSA, or Pisana, high mountains of Peru, ch ſerve as land-marks, extending about 21 s on the coaſt, S. of the equator.

ICQUERING, *part. n. ſ.* a flying war, or ſkir- , made by ſoldiers detached from two armies pillage, or before a main battle begins.

ICQUET, or Picket. See Piquet.

ICRA, a lake of Africa, which Alexander the at croſſed, when he went to conſult the oracle upiter Ammon. *Diod.*

ICRAMNIA, in botany, a genus of the pen- ria order, belonging to the dicœcia claſs of nts; and in the natural method ranking with ſe that are doubtful. The calyx is tripartite; corolla has 3 petals; the ſtamina from 3 to 5, -ſhaped, and ſeem to join together at the baſe; re are two ſtyli, which are ſhort and bent back- ds; the berry is roundiſh, and contains two ong ſeeds, and ſometimes one ſeed only. There nly one ſpecies, viz.

PICRAMNIA ANTIDESMA, the *murjoe buſh*. This ub is frequent in copſes and about the ſkirts of oods in Jamaica, riſing about 8 or 9 feet from the ground. The leaves are oval, pointed and placed alternately along the branches; the flower-ſpikes are long, pendulous, and ſlender: the flo- rets ſmall and white: the berries are numerous; at firſt red, then of a jet black colour; the pulp is ſoft, and of a purple complexion. The whole plant is bitter, and eſpecially the berry. The ne- groes make a decoction of them, and uſe it in weakneſſes of the ſtomach and in venereal caſes.

PICRANIA, in botany, a new genus of plants, of the claſs pentandria and order monogynia, late- ly diſcovered. Only one ſpecies is yet known; viz.

Picrania amara, or *Bitter Wood*, a tall and beautiful timber tree, common in the woods of Jamaica. The name is expreſſive of its ſenſible qualities. Every part of it is intenſely bitter; and even after the tree has been laid for floors many years, whoever rubs or ſcrapes the wood, feels a great degree of bitterneſs in their mouth or throat. Cabinet-work made of this wood is very uſeful, as no inſect will live near it. This tree has a great affinity to the *Quaſſia Amara* of Linnæus; in lieu of which it is uſed as an antiſeptic in putrid fe- vers. When uſed, leſs of it will do than of the *Quaſſia Amara* of Surinam. See Quassia.

PICRIS, in botany, Ox-tongue; a genus of the polygamia æqualis order, belonging to the ſyngeneſia claſs of plants; and in the natural me- thod ranking under the 49th order, *Compoſitæ*. There are 4 ſpecies, of which the only remarkable one is the

Picris echioides, the common ox-tongue, growing ſpontaneouſly in corn fields in Britain. It has undivided leaves embracing the ſtem, with yellow bloſſoms, which ſometimes cloſe ſoon after noon, at other times remain open till nine at night. It is an agreeable pot-herb while young. The juice is milky, but not too acrid.

PICRIUM, in botany, a genus of the monogynia order, belonging to the tetrandria claſs of plants; and in the natural method ranking with thoſe that are doubtful. The calyx is monophyllous and quinquefid; the corolla monopetalous, and its tube is ſhort; the filaments are 4, and hooded at their inſertion; the ſtile long and thick; the ſtig- ma bilamellated; the capſule is round, bivalved, and contains a number of ſmall ſeeds. There are two ſpecies;

1. Picrium Ramosa, and

2. Picrium Spicata; both natives of Guiana. Both ſpecies are bitter, and employed in dyſpepſy, and to promote the menſes: they are alſo recom- mended in viſceral obſtructions.

* PICT. *n. ſ.* [*pictus*, Lat.] A painted perſon.—

Your neighbours would not look on you as men,
But think the nations all turn'd *picts* again. *Lee.*

Pictæ. See Picti, and Picts.

Pictavi, or Pictones. See Pictones.

Pictavia, an ancient kingdom of Caledonia, or Scotland, comprehending, at its moſt flouriſh- ing period, all the territories bounded on the N. by the Forth and Clyde, and on the S. by the Tweed and Solway. It was inhabited by the Picts. See Picts.

Pictavium, an ancient town of Gaul, the capital of the Pictones, called alſo Lemnum, now Poictiers.

(1.) Pictet,

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(1.) PICTET, Benedict, a native of Geneva, born in 1655, of a diſtinguiſhed family. After having travelled into Holland and England, he taught theology in his own country with extraordinary reputation. The univerſity of Leyden, after the death of Spantreina, invited him to fill his place; but he preferred his own country, for which he received the thanks of the council. He died 9th June, 1724, aged 69. He was remarkable for charity and affability. He publiſhed a great number of works in Latin and French, which are much eſteemed in Proteſtant countries. The principal of theſe are, 1. A Syſtem of Chriſtian Theology in Latin, 3 vols in 4to; beſt edit. 1721. 2. Chriſtian Morality, Geneva, 1710, 8 vols 12mo. 3. The Hiſtory of the 11th and 12th centuries; a ſequel to that of Sueur, 1713, 2 vols 4to. and held in higher eſtimation. 4. Several Controverſial Treatiſes. 5. A great number of tracts on morality and piety; particularly *the Art of Living and Dying well;* Geneva, 1705, 12mo. 6. Letters. 7. Sermons, from 1697 to 1721; 4 vols 8vo.

(2.) PICTET, John-Lewis, a counſellor of Geneva, born in 1739, of the ſame family. He was member of the Council of Two Hundred; Counſellor of State and Syndic; and died in 1781. He ſtudied aſtronomy, and made ſeveral voyages into France and England. He had a moſt enlightened underſtanding. He left in M. S. the "Journal of a Voyage which he made to Ruſſia and Siberia in 1768 and 1769, in order to obſerve the tranſit of Venus over the ſun's diſk:" a work very intereſting, from the lively deſcriptions which it gives both of men and of nature.

PICTI, or PICTÆ, [Lat. *painted.*] an ancient people of Scythia, ſo named, becauſe they painted their bodies with various colours, to make them appear terrible to their enemies. They are alſo called AGATHYRSI. According to Servius, a colony of them emigrated to the N. parts of Britain, where they ſettled, and preſerved their name and manners, and gave riſe to the kingdom of the Picts. But this is diſputed. See PICTS.

PICTLAND. See PENTLAND.

PICTONES, an ancient people of Gaul, mentioned by Cæſar, (*De Bell. Gall.* vii. c. 4.) who inhabited the country called POICTOU in modern times, till the late revolution of France.

* PICTORIAL. *adj.* [from *pictor*, Latin.] Produced by a painter. A word not adopted by other writers, but elegant and uſeful.—Sea horſes are but groteſco delineations, which fill up empty ſpaces in maps, as many *pictorial* inventions, not any phyſical ſhapes. *Brown's Vulgar Errours.*

PICTOU, an iſland near the N. coaſt of Nova Scotia. Lon. 62. 13. W. Lat. 45. 46. N.

PICTOWA, a mountain of Siberia, in Barraba, abounding with rich copper mines, which have alſo ſilver and gold in them. See BARRABA.

PICTS, one of thoſe nations who anciently poſſeſſed the north of Britain. It is generally believed that they were ſo called from their cuſtom of painting their bodies; an opinion which Camden ſupports with great erudition. (See Gough's edition, Vol. I. p. xci. of the preface.) It is certainly liable, however, to conſiderable objections; for as this cuſtom prevailed among the other ancient inhabitants of Britain, who uſed the *glaſtum* of Pliny and the *vitrum* of Mela for that purpoſe, it may be aſked, Why the name of Picti was confined by the Romans to only one tribe, when it was equally applicable to many others? Why ſhould they deſign them only by an epithet without ever annexing their proper name? Or why ſhould they impoſe a new name on this people only, when they give their proper name to every other tribe which they have occaſion to ſpeak of? As theſe queſtions cannot be anſwered in any ſatisfactory manner, we muſt look for ſome other derivation of the name. The Highlanders of Scotland who ſpeak the ancient language of Caledonia expreſs the name of this once famous nation by the term *Pictich;* a name familiar to the ears of the moſt illiterate, who could never have learned it from the Roman authors. The word literally means *pilferers* or *plunderers.* The appellation was probably impoſed upon this people by their neighbours, or aſſumed by themſelves, ſome time after the reign of Caracalla, when the unprotected ſtate of the Roman province, on which this people bordered, gave them frequent opportunities of making incurſions thither, and committing predations. Accordingly this name ſeems to have been unknown till the end of the 3d century. Eumenius the panegyriſt is the firſt Roman author who mentions this people under their new name of *Pictich,* or, with a Latin termination, *Picti.* When we ſay that this name may have been probably aſſumed for the reaſon juſt now mentioned, we muſt obſerve, that, in thoſe days of violence, the character of a robber was attended with no diſgrace. If he had the addreſs to form ſchemes well, and to execute them ſucceſsfully, he was rather praiſed than blamed for his conduct, and conſidered as a *hero,* providing he made his encroachments on the property of his own prince or any of its allies. This is no peculiar idea upon the Picts; for other nations of antiquity in the like rude ſtate, thought and acted as they did. See *Thucydides,* lib. 3. p. 3. and *Virg. Æn.* i. et 749. Concerning the origin of the Picts authors are much divided. Boethius derives them from the Agathyrſi, Pomponius Lætus from the Germans, Bede from the Scythians, Camden and Father Innes from the ancient Britons, Stilling-fleet from a people inhabiting the Cimbrica Cherſonneſus, and Keating and O'Flaherty, on the authority of the Pſalter Caſhel, derive them from the Thracians. But the moſt probable opinion is, that they were the deſcendants of the old Caledonians. Several reaſons are urged in ſupport of this opinion by Dr Macpherſon; and the words of Tacitus, "Caledonum, aliorumque Pictorum," &c. plainly imply that the Picts and Caledonians were one and the ſame people. As there has been much diſpute about the origin of the Picts, ſo there has been likewiſe about their language. There are many reaſons which make it plain that their tongue was the Gaelic or Celtic; and theſe reaſons are a further confirmation of their having been of Caledonian extract. Throughout the E. and NE. coaſts of Scotland (which were poſſeſſed by the Picts) we meet with an innumerable liſt of names of places, rivers, mountains, &c. which are manifeſtly Gaelic. From a very old manuſcript of the priory of St Andrew's (*Dalrymple*

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lections, p. 122.) it appears, that in the days of ngus, the laſt Pictiſh king of that name, St rew's was called *Mucroſs*; and that the town called *Queensferry* had the name of *Ardchinhan*. Both theſe words are plain Gaelic. The ſignifies *the heath* or *promontory of boars*; and latter, *the height* or *peninſula of Kenneth*. In liſt of Pictiſh kings publiſhed by Father Innes, of the names are obviouſly Gaelic, and in y inſtances the ſame with the names in the f Scottiſh or Caledonian kings publiſhed by ſame author. Had Innes underſtood any thing is language, he would not have ſuppoſed with den that the Picts ſpoke the Britiſh tongue. two words, on which they built their conjec- (*Strath* and *Aber*) are as common in the ic as they could have been in the Britiſh, and ſa day make a part of the names of places in ſtries to which the Pictiſh empire never ex- d. The names of *Strathfillan* and *Lochaber* ſerve as inſtances. Bede, as much a ſtranger e Celtic as either of theſe antiquaries, is e- y unhappy in the ſpecimen which he gives of ictiſh language in the word *penuahel*, *the head wall*. Allowing the commutation of the ini- into *c*, this word has ſtill the ſame meaning ltic which Bede gives it in the Pictiſh. The of the earlieſt ages, as appears from the joint ny of all writers who have examined the , poſſeſſed only the E. and NE. coaſt of d. On one ſide, the ancient Drumalbin, ridge of mountains reaching from Lochlo- near Dumbarton to the frith of Taine, ſeparates the county of Sutherland from a Roſs, was the boundary of the Pictiſh do- . Accordingly we find in the life of St ba, that, in travelling to the palace of Bru- ng of the Picts, he travelled over Drumal- e *Dorſum Britanniæ* of Adamnan. On the ide, the territory of the Picts was bounded Roman province. After Britain was relin- d by the emperor Honorius, they and the s by turns were maſters of thoſe countries lie between the frith of Edinburgh and the Tweed. We learn from Bede, that the Sax- ere maſters of Galloway when he finiſhed eccleſiaſtical Hiſtory. The Picts, however, a conqueſt of that country ſoon after; ſo before the extinction of their monarchy, all erritories bounded on the one ſide by the and Clyde, and on the other by the Tweed Solway, fell into their hands. The hiſtory e Picts, as well as of all the other ancient in- nts of Britain, is extremely dark. The Iriſh ians give us a long liſt of Pictiſh kings, who ed over Pictavia for 11 or 13 centuries before riſtian era. After them Innes, in his Critical , gives us a liſt of above 50, of whom no leſs ave held the ſceptre, each for a whole centu- It is probable that theſe writers had confound- e hiſtory of the Picts with that of their anceſ- the old Caledonians. In any other view, accounts of them are highly fabulous; and been long ago confuted by Dr Macpherſon late, an antiquary of much learning and re- h. The Picts were probably not known by name before the 2d or 3d century. Adam- abbot of Iona, is the firſt author who expreſs- ly mentions any Pictiſh king: and the oldeſt after him is Bede. We are informed by theſe two wri- ters, that St Columba converted Brudeus king of the Picts to the Chriſtian faith. Columba came into Britain A. D. 565. Before that period we have no general record to aſcertain ſo much as the name of any Pictiſh king. The hiſtory of *Druſt* or *Dreſt*, who is ſaid to have reigned over the Picts in the beginning of the 5th century, when St Ninian firſt preached the goſpel to that nation, A. D. 630. has all the appearance of fiction. His having reigned 100 years, and his putting an end to 100 wars, are ſtories which exceed all the bounds of probability. Brudeus, the contemporary of Columba, is the firſt Pictiſh king mentioned by any writer of authority. What figure his anceſtors made, or who were his ſucceſſors on the throne of Pictavia, cannot be aſcertained. Bede informs us, that, during the reign of one of them, the Picts killed Egfred king of Northumberland in battle, and deſtroyed the greateſt part of his army. The ſame author mentions another of their kings called *Naitan*, to whom Ceolfrid, abbot of Wiremouth, wrote his famous letter concerning Eaſter and the Tonſure; a letter in which Bede himſelf is ſuppoſed to have had a principal hand. Roger Hoveden and Simon of Durham mention two other Pictiſh kings *Onnuſt* and *Kinoth*, the firſt of whom died in 761, and the latter flouriſhed about the 774, and gave an aſylum to Alfred of Northumberland, who was about that time expelled his kingdom. The accounts given by the Scots hiſtorians of ſeveral other Pictiſh kings cannot be depended on; nor are the ſtories told by the Britiſh hiſtorians, Geoffroy of Monmouth and the author of the *Eulogium Britanniæ*, worthy of greater credit. In the 9th century the Pictiſh nation was totally ſubdued by the Scots in the reign of Kenneth II. Since that time their name has been loſt in that of the conquerors, with whom they were incorporated after this conqueſt: however, they ſeem to have been treated by the Scottiſh kings with great lenity, ſo that for ſome ages after they commanded a great deal of reſpect. The prior of Hogulſtead, an old Engliſh hiſtorian, relates, that they made a conſiderable figure in the army of David I. in his diſputes with Stephen king of England. In a battle fought in 1136, by the Engliſh on one ſide, and the Scots and Picts on the other, the latter inſiſted on their hereditary right of leading the van of the Scots army, and were indulged in that requeſt by the king. The principal ſeat of the Pictiſh kings was at Abernethy. Brudeus, however, as appears from the accounts given by Adamnan, in his life of Columba, had a palace at Inverneſs, which was probably near the extremity of his territory in that quarter. With reſpect to the manners and cuſtoms of the Picts, there is no reaſon to ſuppoſe they were any other than thoſe of the old Caledonians and Scots, of which many particulars are related in the Greek and Roman writers. Upon the decline of the Roman empire, cohorts of barbarians were raiſed, and Picts were invited into the ſervice, by Honorius, when peace was every where reſtored, and were named *Honoriaci*. Thoſe under Conſtantine opened the paſſes of the Pyrenean mountains, and let the barbarous nations into Spain.

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From this period we date the civilization of their manners, which happened after they had by themselves, and then with the Scots, ravaged this Roman province.

PICTS WALL, in antiquity, a wall begun by the emperor Adrian, on the northern bounds of England, to prevent the incursions of the Picts and Scots. It was first made only of turf strengthened with palisadoes, till the emperor Severus, coming into Britain in person, built it with solid stone. This wall, part of which still remains, began at the entrance of the Solway Frith in Cumberland, and running NE. extended to the German Ocean. See ADRIAN and SEVERUS.

(1.) * PICTURE. *n. s.* [*pictura*, Latin.] 1. A resemblance of persons or things in colours.—

Vouchsafe me yet your *picture* for my love,
The *picture* that is hanging in your chamber.
Shak.

—*Pictures* and shapes are but secondary objects. *Bacon's Nat. Hist.*—

He with an empty *picture* fed his mind. *Dryden.*

—As many *pictures* of animals should be got him as can be found with the printed names to them. *Locke.*—She often shews them her own *picture*. *Law.* 2. The science of painting. 3. The works of painters.—Quintilian, when he saw any well-expressed image of grief either in *picture* or sculpture, would usually weep. *Wotton.*—I had no design to ruin the company of *picture* drawers, *Stillingfleet.* 4. Any resemblance or representation.—

Vouchsafe this *picture* of thy soul to see. *Dryd.*

—It suffices to the unity of any idea, that it be considered as one representation or *picture*. *Locke.*

(2.) PICTURE. See DRAWING and PAINTING.

* *To* PICTURE. *v. a.* [from the noun.] 1. To paint; to represent by painting.—

I have not seen him so *pictur'd*. *Shak. Cymb.*

—He who caused the spring to be *pictured*, added this rhyme for an expolition. *Carew's Survey.*—Mary Magdalen is *pictured* before our Saviour washing his feet on her knees. *Brown's Vulg. Err.*

—Love is like the painter, who, being to draw the *picture* of a friend having a blemish in one eye, would *picture* only the other side of his face. *South.* 2. To represent.—I, that do but hear it from you, and do *picture* it in my mind, do greatly pity it. *Spenser.*—

See here thy *pictur'd* life. *Thomson's Winter.*

(1.) PICTURESQUE, [*picturesque*, Fr.] *adj.* Of or belonging to painting: striking beautiful, or romantic, so as meriting to be painted.

(2.) PICTURESQUE BEAUTY refers to "such beautiful objects as are suited to the pencil." This epithet is chiefly applied to the works of nature, though it will often apply to the works of art also. Those objects are most properly denominated picturesque which are disposed by the hand of nature with a mixture of *varied rudeness*, *simplicity*, and *grandeur*. A plain neat garden, with little variation in its plan, and no striking grandeur in its position, displays too much of art, design, and uniformity, to be called picturesque. "The ideas of *neat* and *smooth* (says Mr Gilpin), instead of being picturesque, in fact disqualify the object in which they reside from any pretensions to picturesque beauty. Nay, farther, we do not scruple to assert, that roughness forms the [illegible] essential point of difference between the beautiful and the picturesque; as it seems to be that particular quality which makes objects chiefly pleasing in painting. I use the general term *roughness*; for properly speaking roughness relates only to the surfaces of bodies: when we speak of their [illegible] neation, we use the word *ruggedness*. Both [illegible] however, equally enter into the picturesque; both are observable in the smaller as well as in larger parts of nature; in the outline and bark a tree, as in the rude summit and craggy side mountain. On the whole, picturesque composition consists in uniting in one whole, a variety parts, and these parts can only be obtained from rough objects. It is possible therefore to find picturesque objects among works of art, and it is possible to make objects so; but the grand source picturesque beauty is nature in all its original riety, and in all its irregular grandeur.

PICUIPINIMA, in ornithology, is the name a species of pigeon in Brasil. It is so very small scarce to exceed the lark in size. Its head, and wings, are of a pale lead colour, with a semilunar mark at the extremity of each but its long wing-feathers, which are seen the wings are expanded in flying, are of a brown on one side, and blackish on the with black ends or tips; the tail is long, variegated with black, white, and brown belly is covered with white feathers, every which has a brown mark of the shape of moon at the end.

PICUMNUS and PILUMNUS, were two at Rome, who presided over the auspices before the celebration of nuptials. Pilumnus supposed to patronize children, as his name in some manner to indicate *quod pellat mala tia*. The manuring of land was first invented Picumnus, for which reason he is called *linius*. Pilumnus is also invoked as the bakers and millers, as he is said to have vented the art of grinding corn.

(I.) PICUS, in fabulous history, a king tium, son of Saturn. He married VENILIA, CANENS, by whom he had FAUNUS. He loved by the goddess POMONA, and returned affection. As he was one day hunting in the he was met by Circe, who became deeply ed of him, and who changed him into a pecker, called by the name of *picus* among Latins. His wife Venilia was so disconsolate she was informed of his death, that she pined way. Some say that Picus was the son of PI NUS, and that he gave out prophecies to jects by means of a favourite woodpecker; which originated the fable of his being phosed into that bird.

(II.) PICUS, John, earl of Mirandola, a of parts and learning, was the youngest John Francis Picus earl of Mirandola and dia; and was born in 1463. The progress he made in letters was extremely rapid. the scholar of R. Jochanan, a German Jew, confirmed his natural fondness for the cabal writings. After visiting the most famous ties of France and Italy, he went to Rome; in 1486, before he was 24 years of age, he

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fhed feo propofitions in logic, mathematics, phyes, divinity, cabaliftic learning, and magic, drawn t only from Greek and Latin, but even from with and Arabian writers: fubjoining to his adtifement, that, "if any philofopher or divine ould come to Rome to difpute with him upon y or all of them, he would defray the expences his journey from the remoteft corners of Italy." t fome of his propofitions being charged with refy, he was forbid to difpute upon them. At e age of 28, he confined himfelf wholly to the udy of the fcriptures; and undertook to combat e Jews and Mahometans, as well as to confound ftrial aftrology. He died in 1494, in his 32d ar. He was called the *phœnix of his age*, and by aliger *Monftrum fine Vitio*. He compofed a great mber of works, which have often been printed. (III.) Picus, John Francis, prince of Mirandola, nephew of John Picus mentioned above, was rn about the year 1469. He cultivated learning d the fciences after the example of his uncle; t he had a principality and dominions to fuperintend, which involved him in great troubles, and laft coft him his life. He was twice driven from s principality, and twice reftored; and at laft, 1533, was, together with his eldeft fon Albert, ftinated in his own caftle by his nephew Galeo. He was a great lover of letters; and fuch of s works as were then compofed were inferted in e Strafburgh edition of his uncle's in 1504, and ntinued in future impreffions, befides fome oes which were never collected.

(IV.) Picus, the Woodpecker, in ornithology, a genus belonging to the order of picæ. The ak is ftraight, and conlifts of many ridges, and ms a wedge at the point: the noftrils are coverd with briftly feathers; the tongue is round like worm, very long, and fharp at the point, which fet with briftles bent backwards. The grand aracteriftic, fays Latham, of thefe birds is the ngue (which in no bird is fimilar, the wryneck xcepted, whofe other characters, however, differ o widely to give it place in this claffs,) the muftes neceffary to the motions of which are fingur and worthy of notice; affording the animal ans of darting it forwards the whole length, drawing it within the mouth at will. See *Ray the Creation*, p. 143. *Derham's Phyfico-Theol.* p. 4. Note c. *Will. Orn.* p. 136. t. 21. Mr Latham enumerates no lefs than 50 fpecies of woodckers, and 9 varieties. The moft remarkable e thefe:

1. Picus auratus, *the gold-winged woodpecker*, about 11 inches long, and weighs about 5 oz. he bill is an inch and a half long, and is fomehat bent, and is not fquare but roundifh, ridged ly on the top, the point being fharp; the upper rts of the head and neck are afh-coloured; the nd head is red; the fides of the head, throat, d fore part of the neck, are pale yellow; on ch fide of the head is a ftripe of black, from the fe of the lower jaw to the neck; the back, fcaulars, and wing coverts, are of a grey brown coour, tranfverfely ftriated with black lines; the mp is whitifh; the breaft, belly, and fides, are whitifh yellow, and each feather is marked with round black fpot at the tip; on the middle of he breaft there is a large crefcent of black; the thighs, upper and under tail coverts, are black and white mixed; the quills are brown, with yellow fhafts fpotted with brown on the outer edge; the tail is blackifh, being outwardly edged with grey; the outer feather is dotted with whitifh on the margins; the fhafts of all but the two middle feathers are yellow half way from the bafe; and the legs and claws are brown. The female differs in having the crown and neck behind grey brown; the hind head of a lefs vivid red; and the greater quills not fpotted on the edges. She alfo wants the black lift on the throat, but otherwife is like the male. This fpecies inhabits Virginia, Carolina, and Canada, and abounds in New Jerfey and about New York, where it is called by fome *hittock* or *pint*, and by others *high-hole*. Both the firft names have fome relation to its note; and perhaps the latter, from the fituation of the neft. It is almoft continually on the ground, and is not obferved to climb on the trees, like others of the genus. It lives chiefly on infects, and is commonly very fat, fo as to be thought very palatable for the table. It ftays all the year. In its form and fome of its qualities it refembles the cuckow. It flies to the tops of trees, and fits occafionally on the branches. Forfter, in the *Philof. Tranf.* fays, it is a bird of paffage in the northern parts of America, vifiting the neighbourhood of Albany Fort in April, and leaving it in September: that it lays from four to fix eggs, in hollow trees, and feeds on worms and other infects.

2. Picus erythrocephalus, *the red-headed woodpecker*, is about 8¼ inches long, and weighs 2 oz. The bill is an inch and a quarter in length, of a lead colour, with a black tip; the irides are dufky; the head and the neck are of a moft beautiful crimfon; the back and wings are black; the rump, breaft, and belly, are white; the ten firft quills are black, the 11th black and white, and the others are white with black fhafts; the tail is black and cuneiform; the legs and claws are of a lead colour. The cock and hen are very nearly alike. This fpecies inhabits Virginia, Carolina, Canada, and moft of the parts of North America; but at the approach of winter it migrates more or lefs to the S, according to the feverity of the feafon; and upon this circumftance the people of North America foretel the rigour or clemency of the enfuing winter. Kalm obferves that it is a very common bird, and is very deftructive to the maize fields and orchards, pecking through the ears of maize, and deftroying great quantities of apples. In fome years they are more numerous than in others, when they attack the orchards where the fweet apples grow, which they eat fo far that nothing remains but the mere pills. Some years ago there was a premium of twopence per head paid from the public fund, to extirpate thefe pernicious birds. They are likewife very fond of acorns. In Virginia and Carolina they ftay the whole year, but are not feen in fuch numbers in winter as in fummer. During the winter they are very tame, and often come in to the houfes as the redbreaft does in England. This fpecies is found chiefly in old trees; and the noife they make with their bills may be heard above a mile diftant. It builds the earlieft of all the woodpeckers, and ge-

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nerally pretty high from the ground. It is accounted very good eating.

3. PICUS FLAVUS, *the yellow woodpecker* is about 9 inches long. The bill is of a yellowish white, and more than an inch long; the hind head is crested; the head itself, the neck, and whole body, are covered with dirty white feathers; from the lower jaw to the ears, on each side, there is a red stripe; the wing coverts are brown and edged with yellowish, and some of the greater ones are mixed with rufous on the inner web; the quills are brown or rufous; the tail is black; the legs and claws are grey. This species is common at Cayenne, and is called there *charpentier jaune*. It makes its nest in old trees which are rotten within; making with its bill a hole from without, at first horizontal, but declining down-wards as soon as it has pierced through the sound part, till it is at last a foot and a half below the first opening. The female lays three white and nearly round eggs, and the young are hatched about the beginning of April. The male bears his share in the work with the female, and in her absence keeps centinel at the entrance of the hole. The note of this bird is a kind of whistle six times repeated, of which the two or three last are in a graver accent than the others. The female wants the red band on the side of the head which the male has. Specimens vary; some are of that dirty white, as Brisson describes it, others of a light yellow; which last is the case in a specimen in the Leverian museum: this is 13 inches in length.

4. PICUS MAJOR, *the great spotted woodpecker*, weighs 2¾ oz. the length is 9 inches; the breadth 16. The bill is one and a quarter long, of a black horn colour. The irides are red. The forehead is of a pale buff colour; the crown of the head a glossy black; the hind part marked with a rich deep crimson spot. The cheeks are white; bounded beneath by a black line, that passes from the corner of the mouth and surrounds the hind part of the head. The neck is encircled with a black colour. The throat and breast are of a yellowish white; the vent feathers of a fine light crimson. The back, rump, and coverts of the tail, and lesser coverts of the wings, are black; the scapular feathers and coverts adjoining to them are white. The quill feathers are black, elegantly marked on each web with round white spots. The 4 middle feathers of the tail are black, the next tipped with dirty yellow; the bottoms of the two outmost black; the upper parts a dirty white. The exterior feathers marked on each web with two black spots; the next with two on the inner web, and only one on the other. The legs are of a lead colour. The female wants that beautiful crimson spot on the head; in other respects the colours of both agree. This species is much more uncommon than the VIRIDIS, (N° 10.) and keeps altogether in the woods. They are pretty common in England, France, Germany, and other parts of Europe, frequenting the woods, and are likewise met with in America. They are very cunning, and hide themselves when observed. The extreme facility with which these birds descend and ascend the trees is surprising.

5. PICUS MARTIUS, *the greatest black woodpecker*, is about the size of a jackdaw, being about 17 inches long; the bill is nearly 2½ inches in length, of a dark ash colour, and whitish on the sides; the irides are pale yellow, and the eyelids are naked, according to Scopoli; the whole bird is black, except the crown of the head, which is vermilion; the first quill feather is the shortest, and the two middle tail feathers, which are longer than the others, make it appear a little rounded; the legs are of a lead colour, covered with feathers on the fore part for half their length. The female differs from the male in having the hind head only red, and not the whole crown of the head; and the general colour of the plumage has a strong cast of brown in it. Sometimes the red on the hind head is wholly wanting; and indeed both male and female vary in different subjects, as to their proportion of red on the head. This species is found on the continent of Europe, but is numerous only in Germany. It is not an inhabitant of Italy, or France, but it is found in Sweden, Switzerland, and Denmark, though not in winter. It builds in old ash and poplar trees, making large and deep nests; and Frisch observes, that they often so excavate a tree, that it is soon after blown down with the wind; and that under the hole of this bird may often be found a bushel of dust and bits of wood. The female lays two or three white eggs, the colour of which is peculiar to the whole of the genus.

6. PICUS MEDIUS, the *middle-sized woodpecker*, agrees with the MAJOR, (N° 4.) in colours and size, excepting that the crown of the head of this is of a rich crimson; the crown of the head is the same of the former black; and the crimson is in form of a bar on the hind part. Birds thus marked have been shot in Lancashire and other parts of England; but Mr Pennant is doubtful whether they are varieties, or distinct species.

7. PICUS MINOR, the *least spotted woodpecker*, scarce weighs an ounce: the length is six inches, the breadth 11. The forehead is a dirty white; the crown of the head, in the male, of a beautiful crimson: the cheeks and sides of the neck are white, bounded by a bed of black beneath the former. The hind part of the head and nape, and the coverts of the wings, are black; the others varied with black and white: the breast and belly are of a dirty white: the crown of the head, in the female, is white; the feet are of a lead colour. It has all the characters and actions of the greater kind, but is not so often met with. Buffon affirms that it inhabits most parts of France. It approaches near habitations in winter, and may be seen in orchards adjoining to houses. It builds in an hole of a tree, and often disputes the right of possession with the little colemouse. Willughby says it is called in England by the name of *awall*. It is said to inhabit the higher parts of Asia.

8. PICUS PRINCIPALIS, the *white-billed woodpecker*, is somewhat bigger than the MARTIUS, (N° 5.) and equal in size to a crow. It is 16 inches long, and weighs about 20 ounces. The bill is white as ivory, three inches long, and channelled; the irides are yellow, and on the hind head is an erect pointed crest, of a fine red colour, some of the feathers of which are two inches long; the head itself, and the body in general, are black; but the lower part of the back, rump, and upper tail coverts,

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verts, are white; from the eye there arises a ipe of white, which passes on each side of the k down to the back; 3 or 4 of the prime quills black, but the rest are white; the tail is cuform, and of the same colour as the body; the s and claws are also black. This species inha- Carolina, Virginia, New Spain, and Brasil, is called by the Spaniards *carpenter*, and not thout reason, as this as well as the other spe- make a great noise with the bill against the s in the woods, where they may be heard at reat distance, as if carpenters were at work, ing, according to Catesby, in an hour or two thel of chips. He adds, that the Canadian ans make use of the bills of these birds for co- a, setting them round in a wreath with the its outwards; and that the northern Indians hase them of the southern at the rate of two three buck-skins per bill. Kalm says they are d in New Jersey, though very seldom, and at certain seasons.

PICUS PUBESCENS, the *little woodpecker*, acing to Catesby, weighs only about an ounce an half. Brisson says it is larger than the lest of our European species, being about 5½ es long. The bill is about eight lines long, of a horn colour; the top of the head is black, on each side above the eye is a white line; the head is red; the hind parts of the neck, the and rump, are black, which is divided into rts by a line of white passing down the to the rump; the scapulars, upper wing coverts, are black; the greater wing cod quills are spotted with white; the unrts of the body are pale grey; the tail is ; the four middle feathers are plain, the re barred with white and black; and the ad claws are black. The female has no red e hind head. Linnæus says, that the outl feather is white, marked with four black . This species inhabits Virginia and Caroli- According to Kalm, it abounds in New Jerwhere it is the most daring and dangerous to rds. As soon as it has pecked one hole in a it makes another close to the first, in an hoal direction, proceeding till it has made a of holes quite round the tree; and the apees in the orchards have often several rings les round the stem, insomuch that the tree ently dries up and decays.

PICUS VIRIDIS, the *green woodpecker*, weighs ; its length is 13 inches, the breadth 20½; ill is dusky, triangular, and near two inches ; the crown of the head is crimson, spotted black, and the males have a rich crimson beneath the blackness; the back, neck, and coverts of the wings, are green; the rump pale yellow; the whole of the under part of body is of a very pale green, and the thighs vent are marked with dusky lines; the legs feet are of a cinereous green; the tail consists stiff feathers, whose ends are generally bro- as the bird rests on them in climbing; their are black; the rest of each is alternately barwith dusky and deep green. These birds feed ly on insects; and their principal action is of climbing up and down the bodies or hs of trees: for the first purpose they are provided with a long slender tongue, armed with a sharp bony end barbed on each side, which by the means of a curious apparatus of muscles they can exert at pleasure, darting it to a great length into the clifts of the bark, transfixing and drawing out the insects that lurk there. They make their nests in the hollows of trees: in order therefore to force their way into these cavities, their bills are formed strong, very hard, and wedge-like at the end; Dr Derham observes, that a neat ridge runs along the top, as if an artist had designed it for strength and beauty. Yet it has not power to penetrate a sound tree; their perforation of any tree is a warning to the owner to throw it down. Their legs are short, but strong; their thighs very muscular; their toes disposed two backward, two forward; the feathers of the tail very stiff, sharp pointed, and bending downwards. The three first circumstances admirably concur to enable them to run up and down the sides of trees with great security; and the strength of the tail supports them firmly when they continue long in one place, either where they find plenty of food, or while they are forming an access to the interior part of the timber. This form of the tail makes their flight very awkward, as it inclines their body down, and forces them to fly with short and frequent jerks when they would ascend, or even keep in a line. This species feeds oftener on the ground than any other of the genus: all of them make their nests in the hollows of trees; and lay five or six eggs, of a beautiful semi-transparent white. These birds sometimes build in a hollow asp or other tree, 15 or 20 feet from the ground. The male and female take it by turns to bore through the living part of the wood, till they come to the rotten part, wherein, after being hollowed out to a proper depth, they lay their eggs, which are generally greenish, with small black spots. These holes are so deep, that a man may thrust his whole arm down one of them, till he reach the eggs. The young ones climb up and down the trees before they can fly. The holes of the woodpecker are as perfectly round as if made by a pair of compasses. Nuthatches, starlings, and bats, frequently build in these holes when deserted. Both Frisch and Klein mistake in saying that the females have not the red crown, for even the young ones in the nest have the appearance of it; but they do not become of a full red till after the first moult. They are fond of bees, and make great havock among them. Salerne says they are found in the markets of Italy. In Sir A. Lever's museum there is a variety of this bird of a straw colour, except the crown, which is faintly marked with red.

PIDAURA, a town of European Turkey, in the Morea, anciently called EPIDAURUS; seated on the W. coast of the Gulf of Engia, 25 miles E. of Napoli di Romania. Lon. 41. 8. E. of Ferro. Lat. 37. 40. N.

PIDDLE, a river of Dorsetshire, called also TRENT, which runs into the sea at Pool, a little below Wareham. Along its banks are situated—

PIDDLE-HINTON, PIDDLE-MUSTERTON, PIDDLE PARVA, PIDDLE-TOWN, PIDDLE-TRENTHIDE, and some other villages.

* *To* PIDDLE. *v. n.* [This word is obscure in its

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etymology. *Skinner* derives it from *picciolo*, Italian; or *petit*, Fr. little. Mr *Lye* thinks it the diminutive of the Welsh *bryta*, to eat; perhaps it comes from *peddle*, for *Skinner* gives for its primitive signification, to deal in little things.] 1. To pick at table; to feed squeamishly, and without appetite.—

To *piddle* like a lady breeding. *Swift.*

2. To trifle; to attend to small parts rather than to the main. *Ainf.*

* PIDDLER. *n. f.* [from *piddle.*] 1. One that eats squeamishly, and without appetite. 2. One who is busy about minute things.

* PIE. *n. f.* [This word is derived by *Skinner* from *beizan*, to build, that is to build of paste; By *Junius* derived by contraction from *pasty*; if pasties, doubled together without walls, were the first pies, the derivation is easy from *pie*, a foot; as in some provinces, an apple pasty is still called an apple foot.] 1. Any crust baked with something in it.—

No man's *pie* is freed
From his ambitious finger. *Shak.*

—Mincing of meat in *pies* saveth the grinding of the teeth. *Bacon.*—They have bought more editions of his works, than would lay under all their *pies* at a lord mayor's Christmas. *Dryden.*—

From thence of course the figure will arise,
And elegance adorn the surface of your *pies*.
King.

Eat beef or *pie*-crust, if you'd serious be. *King.*

2. [*Pica*, Latin.] A magpie; a parti-coloured bird.—

The *pie* will discharge thee for pulling the rest. *Tusser.*

Chattering *pies* in dismal discord sung. *Shak.*

Who taught the parrot human notes to try,
Or with a voice endu'd the chatt'ring *pie*?
Dryden.

3. The old popish service book, so called, as is supposed, from the different colours of the text and rubrick. 4. Cock and *pie* was a slight expression in *Shakespeare*'s time, of which I know not the meaning.—

Mr Slender, come; we stay for you.—
—I'll eat nothing, I thank you, Sir.—
—By cock and *pie*, you shall not chuse, Sir; come, come. *Shak. Merry Wives.*

* PIEBALD. *adj.* [from *pie.*] Of various colours; diversified in colour.—

It was a particoloured dress,
Of patch'd and *piebald* languages. *Hudibras.*

—They would think themselves miserable in a patched coat, and yet contentedly suffer their minds to appear abroad in a *piebald* livery of coarse patches and borrowed shreds. *Locke.*—They are pleased to hear of a *piebald* horse, that is strayed out of a field near Islington. *Spectator.*—

Peel'd, patch'd, and *piebald*, linsey-woolsey brothers,
Grave mummers! *Pope.*

(1.) * PIECE. *n. f.* [*piece*, Fr.] 1. A patch. *Ainf.* 2. A part of the whole; a fragment.—Bring it out *piece* by *piece*. *Ezekiel*, xxiv. 26.—The chief captain, fearing lest Paul should have been pulled in *pieces* of them, commanded to take him by force. *Acts.*—Are they not manifest fragments and *pieces* of these greater masses? *Burnet.*—A man that is in Rome can scarce see an object, that does not call to mind a *piece* of a Latin poet or historian. *Addison.* 3. A part.—It is accounted a *piece* of excellent knowledge, to know the laws of the land. *Tillotson.* 4. A picture.—If unnatural, the finest colours are but dawbing, and the *piece* is a beautiful monster at the best. *Dryden.*—

Each heavenly *piece* unweary'd we compare,
Pope.

5. A composition; performance.—He wrote several *pieces*. *Addison.* 6. A single great gun.—

A *piece* of ord'nance 'gainst it I have plac'd.
South.

—Many of the ships have brass *pieces*, whereas every *piece* at least requires four gunners to attend it. *Raleigh.*—Pyrrhus, with continual battery of great *pieces*, did batter the mount. *Knolles.* 7. A hand gun.—When he is put to a *piece* or a pike he maketh as worthy a soldier as any nation he meeteth with. *Spenser.*—The ball goes on in the direction of the stick, or of the body of the piece out of which it is shot. *Cheyne.* 8. A coin; a single piece of money.—

Boileau, for eight hundred *pieces*
Makes Lewis take the wall of Jove. *Prior.*

9. In ridicule or contempt: as, a *piece* of a lawyer or a smatterer. 10. *A-*PIECE. To each—demand, concerning all those creatures that have eyes and ears, whether they might not have had only one eye, and one ear *a piece*. *Men against Atheism.* 11. *Of a* PIECE *with.* Like; of the same sort; united; the same with the rest.—

All seems uniform and *of a piece*. *Roscommon.*

—When Jupiter granted petitions, a cock made request that his house and his body might be all *of a piece*. *L'Estrange.*—My own is *of a piece* with his. *Dryden.*—I appeal to my enemies, if I or any other man could have invented one which had been more *of a piece*. *Dryden.*—

Now she is gone, the world is *of a piece*.
Dryden.

—Nothing but madness can please madness, and a poet must be *of a piece with* the spectators to gain a reputation. *Dryden.*

(2.) PIECE, in matters of money, signifies sometimes the same thing with species; and sometimes by adding the value of the pieces, it is used to express such as have no other particular name.

(3.) PIECE is also a kind of money of account, or rather a manner of accounting used among the negroes on the coast of Angola in Africa. See MONEY.

(4.) PIECE, in heraldry, denotes an ordinary charge. The honourable pieces of the shield are the chief, fess, bend, pale, bar, cross, fret, chevron, and in general all those which take up one third of the field, when alone, and in what manner soever it be. See HERALDRY.

(5.) PIECE OF EIGHT. See DOLLAR, § 8, and MONEY, § 9.

(6.) PIECES, in the military art, include all sorts of great guns and mortars. Battering pieces are the larger sort of guns used at sieges for making the breaches; such are the 24 pounder or culverine, the one carrying a 24 and the other a 18 pound ball. Field-pieces are 12 pounders, demi-culverines, 6 pounders, sackers, minions, and 3 pounders, which march with the army, and are carry-

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camp always behind the second line, but in day of battle are in the front. A soldier's firelock is likewise called his *piece*.

(1.) * *To* PIECE. *v. a.* [from the noun.] 1. To enlarge by the addition of a piece.—

I speak too long, but 'tis to *piece* the time,
To draw it out in length. *Shak.*

If aught within that little seeming substance,
Or all of it with our displeasure *piec'd*,
And nothing more may fitly like your grace,
She is yours. *Shak.*

Let him, that was the cause of this, have power
To take off so much grief from you, as he
Will *piece* up in himself. *Shak.*

—Plant it with women as well as men, that it may spread into generations, and not be *pieced* from without. *Bacon.* 2. To join; to unite. 3. *To* PIECE *out*. To increase by addition.—He *pieces out* his wife's inclination. *Shak.*—Whether the *piecing out* of an old man's life is worth the pains, I cannot tell. *Temple.*

(2.) * *To* PIECE. *v. n.* [from the noun.] To join; to coalesce; to be compacted.—He was more in the present speech of the people, and it *pieced* better and followed more close upon the bruit of Plantagenet's escape. *Bacon.*

* PIECELESS. *adj.* [from *piece*.] Whole; compact; not made of separate pieces.—

Religion's types the *pieceless* centers flow,
And are in all the lines which all ways go.
Donne.

(1.) * PIECEMEAL. *adv.* [*pice* and *mel*; a word in Saxon of the same import.] In pieces; in fragments.—

He strooke his helme, full where his plume did stand,
On which it *piece-meale* brake. *Chapman.*

Why did I not his carcass *piecemeal* tear,
And cast it in the sea. *Denham.*

I'll be torn *piecemeal* by a horse,
Ere I'll take you for better or worse. *Hudibras.*

—Neither was the body then subject to distempers, to die by *piecemeal*. *South.*—

Piecemeal they win this acre first, then that.
Pope.

(2.) * PIECEMEAL. *adj.* Single; separate; divided.—This by a more compendious impiety, shoots at his very being, and as if it scorned these *piecemeal* guilts, sets up a single monster big enough to devour them all. *Gov. of the Tongue.*—Stage editors printed from the common *piecemeal* written parts in the playhouse. *Pope.*

* PIECER. *n. s.* [from *piece*.] One that pieces.

* PIED. *adj.* [from *pie*.] Variegated; particoloured.—Such as have their feathers of *pied*, orient and various colours. *Abbot.*—

All the yeanlings, which were streak'd and *pied*,
Should fall as Jacob's hire. *Shak.*

—*Pied* cattle are spotted in their tongues. *Bacon.*

The wing of a *pied* butterfly. *Drayton.*

Meadows trim with daisies *pied*. *Milton.*

PIEDE, or PIEZE, a town of Mexico.

PIEDICORTE, a town of the French republic, in the island and dep. of Corsica, 12 miles ESE. of Corte.

PIEDI-OREZZA, a town of Corsica; 12 miles ENE. of Corte.

PIEDMONT, a country of Italy, with the ci-devant title of a *principality*; which before the late revolutionary war, belonged to the king of Sardinia, but is now annexed to the imperial French republic, and divided into 6 departments. It was bounded on the N. by Savoy and Italy; on the W. by France; on the S. by the Mediterranean and the Ligurian republic; and on the E. by the late duchies of Montferrat and Milan; extending about 150 miles from N. to S. but much less from E. to W. It is called Piedmont, in Latin *Pedemontium*, from its situation at the *foot of the mountains*, or Alps, which separate France from Italy. It is in some parts mountainous, but is everywhere very fruitful. The plains produce fine corn, Turkey wheat, which serves for bread, and with which people of the middle rank mix rye; the pods are used for fuel, and the stalks being thick, serve to mend the roads. The hills abound with vines, which afford plenty of wine, very luscious when new, especially the white. There is also a tartish red wine called *vino brusco*, said to be very wholesome for fat people. The sweet wine is recommended as a stomachic. The neighbourhood of Turin is famous for fine fruits, and many long walks of chesnut and mulberry trees. Truffles or subterraneous mushrooms grow here in great abundance. Some are black, others white marbled with red. Their price is rated according to their size. Sometimes they are found of 12 or 14 pounds weight; and many country people earn from 60 to 70 dollars a-year merely by digging for them. The trade in cattle is said to bring into Piedmont no less than three millions of livres per annum. The cultivation of silk is also a profitable article, the Piedmontese silk being, on account of its fineness and strength, esteemed the best in Italy. The Piedmontese gentry breed vast numbers of silk worms, under the care of their tenants, who have the eggs and mulberry leaves delivered to them, and in return they give half the silk to their masters. Piedmont was formerly divided into 11 small provinces: Piedmont proper, the valleys between France and Italy, the valley of Saluzzo, the county of Nice, the marquisate of Susa, the duchy of Aost, the Canavese, the lordship of Verceili, the county of Asti, and the Langes. It was formerly considered as a part of Lombardy, as it lies at the foot of the Alps, which separate France from Italy. It contains many high mountains, among which there are rich and fruitful valleys, as pleasant and populous as any part of Italy. In the mountains are mines of several kinds, and the forests afford a great deal of curious game, among which the *tumor* is an useful animal. "The mules (says Mr Watkins) are very fine in this country; but the inhabitants have other beasts, or rather monsters, which they find very serviceable, though vicious and obstinate. These are produced by a cow and an ass, or mare and bull, and called *jumarres*, or *gimerri*." The chief trade of this country consists in hemp and silk. The silk worm thrives so well, that many peasants make above 100 lb. of silk annually; and it is not only abundant, but universally

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fully known to be ſtronger and finer than any in Italy. They alſo trade in corn, rice, wine, fruits, flax, and cattle. The chief river of Piedmont is the Po, which flows out of Mount Viſo. The river Seſia, the Doria, Baltea, the ancient Stura, the Tanaro, and ſeveral others, run into it. The language of the Piedmonteſe is a mixture of French and Italian. In this principality there were before the revolution about 50 earldoms, 15 marquiſates, many lordſhips, and 20 abbeys. Turin is the chief city. See TURIN. The number of inhabitants, Mr Watkins ſays, in Piedmont and Savoy, (now the department of MONT BLANC,) amounts to 2,695,727 ſouls, of which Turin contains about 77,000. During the late war, this country was repeatedly over-run by the troops of the belligerent powers. In Nov. 1798, the king of Sardinia left Turin, and took refuge in the iſland of Sardinia; ſoon after which his whole territories in Piedmont, MONTFERRAT, &c. were taken poſſeſſion of by the French; and erected into a republic. (See PIEDMONTESE, N° 3.) This form of government, however, was ſoon overthrown by the Auſtrians, who reduced the whole country, except a few forts, in ſummer 1799; but after the battle of Marengo, in June 1800, the whole of theſe territories again ſubmitted to the French. It was not, however, till the 11th Sept. 1802, that their fate was finally determined, by a decree of the French Conſervative Senate; whereby they were irrevocably annexed to the French republic, and divided into ſix departments, named the Po, MARENGO, *Doria*, SEZIA, STURA, and TANARO; the capitals of which are Turin, Alexandria, Ivica, Vercelli, Coni, and Aſti. Of theſe, the department of the Po ſends 4 deputies, Marengo 3, Doria 2, Seſia 2, Stura 3, and Tanaro 3, to the Legiſlative Aſſembly.

(1.) PIEDMONTESE, *adj.* Of or belonging to Piedmont.

(2.) PIEDMONTESE, *n. ſ.* The inhabitants of Piedmont. The Piedmonteſe have more ſenſe than the Savoyards, but are not ſo ſincere. Some authors repreſent them as lively, artful, and witty, the inhabitants of the mountain of Aoſta excepted, who are farther diſtinguiſhed by large wens, as well as their horſes, dogs, and other animals.

(3.) PIEDMONTESE REPUBLIC, a ſhort-lived democratic ſtate erected by the French, after the model of their own government then prevailing, on the 10th Dec. 1798, out of the king of Sardinia's ci-devant Italian dominions. It was divided into four departments, called *Eridan*, *Seſia*, *Stura*, and *Bormida*. But in ſummer 1799, it was overthrown by the Auſtrians, and the old government and geography reſtored for a period equally ſhort.

* PIEDNESS. *n. ſ.* [from *pied*.] Variegation; diverſity of colour.

There is an art, which in their *piedneſs* ſhares
With great creating nature. *Shak.*

PIEDRO, ST, a town of Maritime Auſtria, in Iſtria; 6 miles SSW. of Capo of Iſtria.

* PIELED. *adj.* Perhaps for *peeled*, or bald; or *piled*, or having ſhort hair.

Piel'd prieſt doſt thou command me be ſhut out?
—I do. *Shak.*

PIEMONTE, a town of Maritime Auſtria, in Iſtria, 11 miles S. of Capo of Iſtria.

PIENES, a ſmall iſland of Japan, over againſt the harbour of Saccai, famed not only for the beauty of its walks, to which crowds of people reſort from the city, but for a deity worſhipped there, to which vaſt numbers of perſons devote themſelves. They go from his temple to the ſea ſide, where they enter into a boat provided for the purpoſe; then, launching into the deep, they throw themſelves overboard, loaded with ſtones, and ſink to the bottom. The temple of that deity, which is called *Canon*, is very large and lofty, and ſo are many others in the city itſelf; one in particular, dedicated to the gods of other countries, is thought the fineſt in the whole empire.

PIENIN, a town of Poland, in Cracow.

PIENO, a flouriſhing town of the Italian republic, in the dep. of the Lario, diſtrict and late county of Como, on the E. bank of lake Como.

PIENZA, a populous town of Etruria, in the Sienneſe, with a biſhop's ſee, 25 miles SE. of Sienna, and 56 S. of Florence. Lon. 11. 42. E. Lat. 43. 0. N.

(1.) * PIEPOWDER COURT. *n. ſ.* [from *pied* foot, and *pouldre*, duſty.] A court held in fairs for redreſs of all diſorders committed therein.

(2.) PIEPOWDER COURT, or PIEPOUDRE COURT, the loweſt, and at the ſame time the moſt expeditious, court of juſtice known to the law of England. It is called PIEPOUDRE, *(curia pedis pulverizati,)* from the duſty feet of the ſuitors; or, according to Sir Edward Coke, becauſe juſtice is there done as ſpeedily as duſt can fall from the foot: upon the ſame principle that juſtice among the Jews was adminiſtered in the gate of the city, that the proceedings might be the more ſpeedy as well as public. But the etymology given by a learned modern writer is much more ingenious and ſatisfactory; it being derived according to him, from *pied puldreaux*, *a pedlar*, in old French, and therefore ſignifying the court of ſuch petty chapmen as reſort to fairs or markets. It is a court of record incident to every fair and market; of which the ſteward of him who has the toll of the market is the judge. It was inſtituted to adminiſter juſtice for all commercial injuries done in that fair or market, and not in any preceding one. So that the injury muſt be done, complained of, heard, and determined, within the compaſs of one and the ſame day, unleſs the fair continues longer. The court hath cognizance of all matters of contract that can poſſibly ariſe within the precinct of that fair or market; and the plaintiff muſt make oath that the cauſe of an action aroſe there. From this court a writ of error lies, in the nature of an appeal, to the courts at Weſtminſter.

(1.) * PIER. *n. ſ.* [*pierre*, Fr.] The columns on which the arch of a bridge is raiſed.—For *piers* ſometimes wet, ſometimes dry, take elm. *Bacon.*—The Engliſh took the galley, and drew it to ſhore, and uſed the ſtones to reinforce the *piers*. *Hayward.*—The bridge, conſiſting of four arches, is the length of 622 Engliſh feet and an half: the dimenſions of the arches are as follows, in Engliſh meaſure; the height of the firſt arch 109 feet, the diſtance between the *piers* 72½ feet; in the

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id arch, the diſtance of the *pier* is 130 feet; in the 3d the diſtance is 109 feet; in the 4th the diſtance is 138 feet. *Arbuthnot.*

(2.) PIER, in building denotes a maſs of ſtone, &c. oppoſed by way of fortreſs to the force of he ſea, or a great river for the ſecurity of ſhips hat lie at harbour in any haven.

(3.) PIERS OF A BRIDGE. See BRIDGE, § I, 3.

(1.) PIERA, in ancient geography, a fountain f Peloponneſus, between Elis and Olympus. *Paſ.* v. c. 16.

(2.) PIERA, in modern geography, a town of pain, in Catalonia, 16 miles NW. of Barcelona.

PIERBACH, a town of Auſtria, 16 m. NNW. f Grein.

PIERCE, James. See PEIRCE.

(1.) * *To* PIERCE. *v. a.* [*percer*, Fr.] 1. To enetrate; to enter; to force a way into.—

Steed threatens ſteed in high and boaſtful neighs,
Piercing the nights dull ear. *Shak.*

They have *pierced* themſelves through with any ſorrows. 1 *Tim.* vi. 10.—

With this fatal ſword, on which I dy'd,
I *pierce* her open'd back or tender ſide. *Dryden.*

The glorious temple ſhall ariſe,
And with new luſtre *pierce* the neighb'ring ſkies. *Prior.*

To touch the paſſions: to affect.—

Did your letters *pierce* the queen? *Shak.*

(2.) * *To* PIERCE. *v. n.* 1. To make way by r into, or through any thing.—

r tears will *pierce* into a marble heart. *Shak.* here is that ſpeaketh like the *piercings* of a ord.—*Prov.* xii. 18.—Short arrows, called hts, were diſcharged out of muſkets, and ld *pierce* through the ſides of ſhips, where a et would not *pierce*. *Bacon.* 2. To ſtrike; to ne; to affect.—

Then I'il commend her volubility;
nd ſay ſhe uttereth *piercing* eloquence. *Shak.*

To enter; to dive as into a ſecret.—She would *pierce* further into his meaning, than himſelf ld declare. *Sidney.*—All men knew Nathaniel e an Iſraelite; but our Saviour *piercing* deep- iveth further teſtimony of him. *Hooker.* 4. affect ſeverely.—They provide more *piercing* tutes daily to chain up the poor. *Shak.*

PIERCEA. See RIVINA.

* PIERCER. *n. ſ.* [from *pierce*.] 1. An inſtru- nt that bores or penetrates.—

Cart, ladder and wimble, with *pierſer* and pod. *Tuſſer.*

The part with which inſects perforate bodies. The hollow inſtrument, terebra, we may Eng- *pierter*, wherewith many flies are provided. . 3. One who perforates.

PIERCE'S ISLAND, an iſland of New Hamp- re, in the Piſcataqua.

* PIERCINGLY. *adv.* [from *pierce*.] Sharply.

* PIERCINGNESS. *n. ſ.* [from *piercing*.] Power piercing.—We contemplate the vaſt reach and mpaſs of our underſtanding, the prodigious ckneſs and *piercingneſs* of its thought. *Derham.*

PIERFOND, a town of France in the dep. of e, 7½ miles N. of Creſpy, and 7½ SE. of Com- gne.

(1.) PIERIA, in ancient geography, a diſtrict of Macedonia, contained between the mouths of the rivers Ludias and Peneus; extended by Strabo beyond the Ludias, to the Axios on the N. and on the S. no farther than the Aliacmon, along the W. ſide of the Sinus Thermaicus.

(2.) PIERIA of Syria, the N. part of Seleucia, or the *Antiochena*, ſituated on the Sinus Iſſicus, and lying next Cilicia on the NW.

(1.) PIERIDES, in fabulous hiſtory, the daughters of Pierus, a Macedonian prince, who preſuming to diſpute with the Muſes for the prize of poetry, were turned into magpies. They were alſo called PÆONIDES.

(2.) PIERIDES, a name of the Muſes, from mount Pieris in Theſſaly, which was conſecrated to them; or according to others, from Pierus, a Theſſalian poet, who was the firſt who ſacrificed to them. See PIERIS.

PIERINO DEL VAGA, an eminent Italian painter, born of poor parents in Tuſcany about the year 1500. He was placed apprentice with a grocer in Florence; but a painter named *Vaga* taking him to Rome, he was called *Del Vaga*, from living with him, his real name being *Buonaccorſi*. After Raphael's death, he joined with Julio Romano and Francis Penni to finiſh the works in the Vatican, which were left imperfect by their common maſter; and to confirm their friendſhip married Penni's ſiſter. He gained the higheſt reputation by his performances in the palace of prince Doria at Genoa: but the multiplicity of his buſineſs drained his ſpirits in the flower of his age; for he died in 1547. Of all Raphael's diſciples, Pierino kept the character of his maſter longeſt, *i. e.* his exterior character and manner of deſigning; for he fell very ſhort of the fineneſs of Raphael's thinking.

PIERIS, in ancient geography, a mountain which is thought to have given name to Pieria of Macedonia; taking its name from Pierus a poet, who was the firſt that ſacrificed to the Muſes, thence called *Pierides*.

PIERMONT, a townſhip of New Hampſhire in Grafton county, on the E. bank of the Connecticut, 6 miles S. of Haverhill; containing 426 citizens, in 1795.

PIEROUAGAMIS, a nation of N. American Indians, who inhabit the NW. bank of Lake St John, in Lower Canada.

(1.) PIERRE, a town of France in the dep. of Saone and Loire, 15 miles N. of Louhans.

(2.) PIERRE D'AUTOMNE, a French name, tranſlated from the Chineſe, of a medicinal ſtone, celebrated in the eaſt for curing all diſorders of the lungs. Many think it had its name of the *autumn ſtone* from its being only to be made at that ſeaſon of the year; but it certainly may be made at all times. The Chineſe chemiſts refer the various parts of the body to the ſeveral ſeaſons of the year, and thus they refer the lungs to autumn. This is evident in their writings, and thus the ſtone for diſeaſes of the lungs came to be called *autumn ſtone*. It is prepared as follows: They put 30 pints of the urine of a ſtrong and healthy young man into a large iron pot, and ſet it over a gentle fire When it begins to boil, they add to it, drop by drop, about a large tea-cup full of rape oil. They then leave in on the fire till the whole is evaporated

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ed to a thick ſubſtance like black mud. It is then taken out of the pot, and laid on a flat iron to dry, ſo that it may be powdered very fine. This powder is moiſtened with freſh oil, and the maſs is put into a double crucible, ſurrounded with coals, where it ſtands till it be thoroughly dried again. This is again powdered, and put into a china veſſel, which being covered with ſilk cloth and a double paper, they pour on it boiling water, which makes its way, drop by drop, through theſe coverings, till ſo much is got in as is ſufficient to reduce it to a paſte. This paſte is well mixed together in the veſſel it is kept in, and this is put into a veſſel of water, and the whole ſet over the fire. The matter thus becomes again dried in *balneo mariæ*, and is then finiſhed. *Obſerv. ſur les Cout. de l'Aſie*, p. 258.

(3.) PIERRE, ST, EUSTACE DE, a brave French patriot, who devoted his life to ſave his country. See CALAIS, N° 1.

(4.) PIERRE, ST, a large river in North America, ſcarcely inferior to the Rhine or the Danube, and navigable to its ſource. It falls into the Miſſiſippi.

(5.) PIERRE, ST, or ST PETER'S, the capital of Martinico, was built in 1665, to overawe the mutineers of the iſland who rebelled againſt its proprietors, the ſecond Weſt India company, who were at the ſame time the proprietors of all the French Antilles. It is ſituated on the W. ſide of the iſland. The town extends along the ſhore, and a battery that commands the road is erected on the W. ſide, which is waſhed by the river Royolan, or St Peter. The town is divided into three wards; the middle, which is properly St Peter's begins at the fort, and runs W. to the battery of St Nicholas. Under the walls of the 2d ward ſhips at anchor ride more ſecurely than under the fort, on which account this ward is called the *Anchorage*. The 3d ward, called the *Gallery*, extends along the ſea ſide from Fort St Peter to the Jeſuits' River, and is the moſt populous part of the city. The houſes of St Peter's ward are neat, commodious, and elegant, particularly thoſe of the governor, and the other officers. The pariſh church of St Peter is a magnificent ſtone building which belonged to the Jeſuits, with a noble front of the Doric order. The church of the Anchorage, which belongs to the Jacobine friars, is likewiſe of ſtone. It is a place of conſiderable trade, and is built with tolerable regularity. The houſes are moſtly conſtructed of a grey pumice-ſtone or lava, which is found on the ſtrand; and the high ſtreet is, according to Dr Iſert, above an Engliſh mile in length. It is ſuppoſed to contain about 2000 houſes, and 30,000 inhabitants, including negroes. St Pierre, with the whole of the iſland, was taken from the French in March 1794, by the Britiſh land and ſea forces under Sir Charles Grey and Sir John Jervis: 125 veſſels loaded with the produce of the iſland, and of great value, were captured, 71 of which were in the harbour of St Pierre. But the iſland was reſtored by the treaty of peace in 1801.

(6.) PIERRE, ST, a town of France, in the dep. of the Straits of Calais; 3 miles SE. of Calais.

(7.) PIERRE, ST, a town of France, in the dep. of Tarn; 6 miles NW. of Caune.

(8.) PIERRE, ST, an iſland near the S. coaſt of Newfoundland, ceded to the French, by the treaty of peace in 1763, but taken by the Britiſh in 1793. Lon. 56. 17. W. Lat. 46. 46. N.

(9.) PIERRE, ST, A OISEAU, an iſland near the coaſt of France, the largeſt of the SEVEN ISLANDS.

(10.) PIERRE, ST, DE BOBUP, a town of France, in the dep. of the Rhone and Loire; 12 miles W. of St Etienne.

(11.) PIERRE, ST, DE CHEMIN, a town of France, in the dep. of the Vendee; 3 miles N. of Chantonnay.

(12.) PIERRE, ST, DE CHIGNAC, a town of France, in the dep. of the Dordogne; 7½ m. SE. of Perigueux.

(13.) PIERRE, ST, D'ESTRIFIERS, a town of France, in the dep. of Lozere; 7½ miles NW. of Meyrveis.

(14.) PIERRE, ST, D' OLERON, a town of France, in the centre of the iſle of Oleron, in the dep. of the Lower Charente; 5 miles NW. of Oleron. Lon. 16. 22. E. Ferro. Lat. 56. 57. N.

(15.) PIERRE, ST, L' EGLISE, a town of France, in the dep. of the Channel; 8 miles E. of Cherbourg.

(16.) PIERRE, ST, LE MOUTIER, a town of France in the dep. of Nievre, and ci-devant pr. of Nivernois; ſeated in a valley near the Ire, ſurrounded by mountains; 12 miles S. of Nevers, 15 NW. of Moulins, and 150 S. of Paris. Lon. 3. 13. E. Lat. 46. 47. N.

(17.) PIERRE, ST, SUR DIVE, a town of France, in the dep. of Calvados; 9 miles NE. of Falaiſe, and 14 SE. of Caen.

PIERREFEU, a town of France, in the dep. of the Var; 6 miles N. of Hieres.

PIERREFITTE, 3 towns of France: 1. in the dep. of the Allier, 10 miles N. of Donjon: 2. in that of the Meuſe, 10½ miles NE. of Bar le Duc: 3. in that of Paris, in the diſtrict of St Denis, 6 miles N. of Paris.

PIERREFORT, a town of France, in the dep. of Cantal: 12 miles SW. of St Flour, and 18 E. of Aurillac.

PIERRELATTE, a town of France, in the dep. of Drome; 12 miles S. of Montelimart, and 15 N. of Orange.

PIERREMONT, ST, a town of France, in the dep. of Ardennes; 9 miles N. of Grandpre.

PIERRES, ST, LES MELISEY, a town of France, in the dep. of Upper Saone; 8 miles ESE. of Luxeuil.

PIERREVILLE, ST, a town of France, in the dep. of Ardeche; 7½ miles NW. of Privas.

PIERSZAIE, a town of Lithuania, in Wilna, 60 miles E. of Lida.

(1.) PIERUS, the father of the 9 PIERIDES.

(2—6.) PIERUS, in geography, 1. a mountain of Theſſaly ſacred to the Muſes: 2. a town of Theſſaly: (*Pauſ.* vii, 22.) 3. a river of Peloponneſus: 4, 5. a mountain and lake of Macedonia.

PIESKY, a town of Lithuania, in Novogrodek, 40 miles WSW. of Novogrodek.

PIETAS, a deity of the Romans. See PIETY, N° 2.

PIETENPACH, a river of Auſtria, which joins the Reiſen, near Schwadorf, and falls into the Danube 12 miles below Vienna.

(1.) PIE-

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3.) PIETISTS, a religious ſect ſprung up a-
ng the Proteſtants of Germany, a kind of mean
ween the Quakers of England and the Quietiſts
he Romiſh church. They deſpiſe all ſorts of
leſiaſtical polity, all ſchool theology, and all
ns and ceremonies, and give themſelves up to
templation and myſtic theology. Many groſs
rs are charged on the Pietiſts, in a book entit-
Manipulus Obſervationum Antipietiſticarum:
they have much of the air of polemical exag-
tion. Indeed there are Pietiſts of various
ds: Some running into groſs illuſions, and
ying their errors to the overturning of a great
t of the Chriſtian doctrine, while others are on-
riſionaries; and others are very honeſt and
d, though perhaps miſguided, people. They
e been diſguſted with the coldneſs and formal-
of other churches, and have thence become
rmed with the fervent piety of the Pietiſts, and
ched to their party, without giving into the
ſſeſt of their errors. See *Moſheim's Eccl. Hiſt.*
, vol. iv. p. 454.

4.) PIETISTS, otherwiſe called the *Brethren*
Siſters of the Pious and Chriſtian Schools, a ſo-
y formed in the year 1678 by Nicholas Barre,
obliged by their engagements to devote them-
es to the education of poor children of both
s.

PIETOLA, a town of the Italian republic, in
ep. of the Mincio, anciently called *Andes*,
o two Italian miles of Mantua, famous for
the birth-place of Virgil; on which account
arte granted the citizens an indemnification
r loſſes during the war, and erected an o-
to the poet's memory, in 1797

PIETRA, the name of 21 towns of Naples, 2
ſcana, and 1 of Corſica, thus diſtinguiſhed:

1. PIETRA CASTELLO, in Capitanata:

2. PIETRA CORBARA, in Corſica, 11 miles N.
ſtia:

3. PIETRA GALLA, in Baſilicata; 2 miles SSW.
Lorenza:

4. PIETRA MALARA, in Lavora; 7 miles N. of
ſa:

5. PIETRA MAURA, in Capitanata:

6. PIETRA PAULA, in Calabria Citra:

7. PIETRA PAULEINA, in Principato Ultra:

8. PIETRA PETROSA, in Baſilicata:

9. PIETRA PULEMA, in Principato Ultra:

10. PIETRA, SANTA, in Etruria, 6 miles SE. of
ſa:

11. PIETRA, ST, DIMUTATA, in Otranto, 10½
es NNE. of Tarento.

12. PIETRA, ST, VERNOTICA, in Otranto, 10
es S. of Brindiſi:

13. PIETRA VAIRAN, in Lavora, 11 m. E. of
ſa.

PIETRAFEZA, a town of Naples, in Baſilica-
y miles SW. of Potenza.

PIETRALBO, a town of the French republic,
he iſland and dep. of Corſica; 10 miles S. of
Lorenzo.

PIETRO, ST, a rich town of the Italian
ublic, in the dep. of the Upper Po, diſtrict of
Mona, and late territory of the Cremoneſe;
ted on the Delmona.

1.) PIETRO, ST, an iſland in the Mediterrane-
anciently called *Hieracum*, 7 miles from the S.
coaſt of Sardinia; 13 miles long and 3 broad. It
was taken by the French republicans in 1793, but
retaken ſoon after. Lon. 26. 18. E. Ferro. Lat. 39
8. N.

(3, 4.) PIETRO, ST, two towns of the French
republic in the iſle and dep. of Corſica; 1. ſix m
SW. of Oletta: 2. ten SW. of Baſtia.

(5.) PIETRO, ST, CAMPO, a diſtrict of Mari-
time Auſtria, in Paduano, containing one town,
32 villages, and 218.000 inhabitants who chiefly
cultivate corn and wine.

(6.) PIETRO, ST, CAMPO, the capital of the
above diſtrict, is a well built town, containing
3,100 inhabitants in 1797.

(7.) PIETRO, ST, GALATINA, a town of Naples
in Otranto; 6 miles E. of Nardo.

(1.) * PIETY. *n. ſ.* [*pietas*, Lat. *pieté*, Fr.] 1
Diſcharge of duty to God.—What *piety*, pity, for-
titude did Æneas poſſeſs beyond his companions?
Peacham on Poetry.—

'Till future infancy, baptiz'd by thee,
Grow ripe in years, and old in *piety*. *Prior.*

There be who faith prefer and *piety* to God.
Milton.

—Praying for them would make them as glad to
ſee their ſervants eminent in *piety* as themſelves.
Law. 2. Duty to parents or thoſe in ſuperior
relation.—

Pope's filial *piety* excels,
Whatever Grecian ſtory tells. *Swift.*

(2.) PIETY is a virtue which denotes veneration for the Deity, and love and tenderneſs to our friends. This diſtinguiſhed virtue, like many others, received among the Romans divine honours, and was one of their deities. Acilius Glabrio firſt erected a temple to this divinity, which he did upon the ſpot on which a woman had fed with her own milk her aged father, who had been impriſoned by order of the ſenate, and deprived of all aliments. The ſtory is well known, and is given at length in books which are in the hands of every ſchool-boy. (See FILIAL PIETY, alſo *Cicero de div.* 1. and *Valerius Maximus*, 5. c. 4.) If piety was thus practiſed and thus honoured, in Heathen antiquity, it ought not to be leſs ſo among Chriſtians, to whom its nature is better defined, and to the practice of which they have motives of greater cogency.

(3.) PIETY, FILIAL. The following example of filial piety is taken from Du Halde's deſcription of China: "In the commencement of the dynaſty of the Tang, Loutao-tſong, who was diſaffected to the government, being accuſed of a fault, which touched his life, obtained leave from thoſe who had him in cuſtody, to perform the duties of the Tao to one of his deceaſed friends. He managed matters ſo well, that giving his keepers the ſlip, he fled to the houſe of Lou Nan-kin, with whom he had a friendſhip, and there hid himſelf. Lou Nan-kin, notwithſtanding the ſtrict ſearch that was made, and the ſeverity of the court againſt thoſe who conceal priſoners that have eſcaped, would not betray his friend. However, the matter being diſcovered, Lou Nan-kin was impriſoned; and they were juſt on the point of proceeding againſt him, when his younger brother preſenting himſelf before the judge, ſaid, *It is I, Sir, who have hidden the priſoner; it is I who ought to die, and not my elder brother.* The eldeſt maintained,

ed, that his younger brother had accused himself wrongfully, and was not at all culpable. The judge who was a person of great sagacity, sifted both parties so effectually, that he not only discovered that the younger brother was innocent, but even made him confess it himself: *It is true, Sir,* said the younger all in tears, *I have accused myself falsely; but I have very strong reasons for so doing. My mother has been dead for some time, and her corps is not yet buried; I have a sister also who is marriageable, but is not yet disposed of: these things which my brother is capable of managing, I am not, and therefore desire to die in his stead. Vouchsafe to admit my testimony.* The commissioner gave an account of the whole affair to the court, and the emperor pardoned the criminal."

(1.) PIEVE, a town of the Italian republic, in the dep. of the Mincio, and district, late duchy, of Verona, seated in the valley of Lumezzano; containing about 2000 citizens.

(2.) PIEVE, a rich town of the Italian republic, in the dep. of the Upper Po, district and late territory of Cremona, seated on the Delmona.

(3.) PIEVE, a town of the Ligurian republic, 9 miles W. of Albenga.

(4.) PIEVE, a town of Maritime Austria, in Friuli; the birth-place of TITIAN.

(5.) PIEVE DI SAVO, a town of Maritime Austria, in the Paduano; 7 miles ESE. of Padua.

PIEUX, a town of France, in the dep. of the Channel; 10 miles SW. of Cherburg, and 13 W. of Valognes.

(1.) * PIG. *n. s.* [*biggе*, Dutch.] 1. A young sow or boar.—Some men there are love not a gaping *pig*. *Shak.*—

Alba, from the white sow nam'd,
That for her thirty sucking *pigs* was fam'd.
Dryden.

—The flesh-meats of an easy digestion, are *pig*, lamb, rabbit and chicken. *Floyer on the Humours.* 2. An oblong mass of lead or unforged iron, or mass of metal melted from the ore is called, I know not why, *sow-metal*, and pieces of that metal are called *pigs*.—

A nodding beam or *pig* of lead,
May hurt the very ablest head. *Pope.*

(2.) PIG, in zoology. See SUS.

(3.) PIG GUINEA. See CAVIA, N° V.

(4.) PIG IRON. See IRON, § 12.

(5.) PIG NUT. See BUNIUM.

(6.) PIG OF LEAD, the 8th part of a fother, amounting to 250 pounds weight.

* *To* PIG. *v. a.* [from the noun.] To farrow; to bring pigs.

PIGALLE, John Baptist, a celebrated sculptor, born at Paris, in 1714. He became chancellor of the academy of painting and knight of St Michael. He went to Italy, and returned inspired with the genius of the great artists. His most valued works are a Mercury and a Venus, which he made by order of Lewis XV. as presents to the K. of Prussia. He alf carved a statue of Voltaire, with many other admired pieces. He died at Paris, in 1785.

PIGANIOL DE LA FORCE, John Aymar De, a native of Auvergne, of a noble family, who applied himself with ardour to the study of geography, and of the history of France. He also travelled for improvement. His chief works are, 1. An Historical and Geographical description of France; the largest edition is that of 1753, in 15 vols. 12mo. 2. A Description of Paris, in 10 vols. 12mo; of which he published an abridgment, in 2 vols. 12mo. 3. A Description of the Castle, Park of Versailles, Mariy, &c. in 2 vols. 12mo. Piganiol had also a concern with Abbé Nadal in the *Journal of Trevoux*. He died at Paris in 1753, aged 80. He was as much respected for his manners as for his talents. To a profound and varied knowledge he united great probity, honour, and all the politeness of a courtier.

(1.) * PIGEON. *n. s.* [*pigeon*, Fr.] A fowl that lives in a cote, or a small house; in some places called a dovecote.—

This fellow picks up wit as *pigeons* peas

—A turtle dove and a young *pigeon*. *Gen.* xv.

Perceiving that the *pigeon* had lost a piece of her tail, through the next opening of the rocks flying with all their might, they passed safe, but the end of their poop was bruised. *Raleigh.*—

The fearful *pigeon* flutters in her hole

—See the cupola of St Paul's covered with lead sexes like the outside of a *pigeon*-house. *Addison.*

A *pigeon*-house or oven,
To bake one loaf, or keep one dove in.

(2.) PIGEON. See COLUMBA, § 1, 1—1.

(3.) PIGEON, Peter Charles Francis, curate afterwards rector or vicar of Bayeux, one of the numberless victims, who fell a sacrifice to Robespierre's rage and infidelity, in the beginning of the French revolution. Altho' a man of not only great piety, but of uncommon mildness and humanity, yet, because he refused to take the oaths imposed by the republicans, he and his family were insulted and persecuted in the cruelest manner, and he himself was at last murdered on the 2d Aug. 1793, in his 38th year.

(4.) PIGEON, in geography, an island in the Royal Bay on the coast of Martinico, strongly fortified.

(5, 6.) PIGEON, BIG and LITTLE, two rivers of Tenessee, which rise in the Great Iron mountains and fall into French Broad river; the former 3 miles below the mouth of the Nolachucky, the former 9 miles above little Pigeon.

(7.) PIGEON, CARRIER. See CARRIER, § 1, and COLUMBA, § 1, N° 4.

(8.) PIGEON PEA. See CYTISUS, § 1, N° 2.

(1.) * PIGEONFOOT. *n. s.* [*geranium*.] An herb. *Ainsworth.*

(2.) PIGEON-FOOT is a species of GERANIUM.

(1.) PIGEON-HOUSE, *n. s.* a house erected with holes within for the keeping, breeding, &c. of pigeons, otherwise called a DOVE-COTE. The lord of a manor may build a pigeon-house on his land, but a tenant cannot do it without the lord's licence. When persons shoot at or kill pigeons within a certain distance of the pigeon-house, they are liable to pay a forfeiture. For a pigeon-house no situation is more proper than the middle of a spacious court-yard, because pigeons are naturally of a timorous disposition, and the least

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ey hear frightens them. As to its form, the und ſhould be preferred to the ſquare ones; beuſe rats cannot ſo eaſily come at them in the mer as in the latter. It is alſo much more comodious; becauſe you may, by means of a ladder rning upon an axis, viſit all the neſts in : houſe, without the leaſt difficulty; which not ſo eaſily be done in a ſquare houſe. To der rats from climbing up the outſide of the geon-houſe, the wall ſhould be covered with plates to a certain height; about a foot and a f will be ſufficient; but they ſhould project 3 or 4 inches at the top, to prevent their mbering any higher. The pigeon-houſe ſhould placed near water, that the pigeons may carit to their young ones; and their carrying it in ir bills will warm it, and render it more wholee in cold weather. The boards that cover pigeon-houſe ſhould be well joined together, t no rain may penetrate through it: and the ole building ſhould be covered with hard plaſ, and white-waſhed within and without, white ng the moſt pleaſing colour to pigeons. There ſt be no window, or other opening in the pie-houſe to the E. theſe ſhould always face the ir pigeons are very fond of the ſun, eſpecial- winter. The neſts or covers in a pigeonſe ſhould conſiſt of ſquare holes made in the of a ſize ſufficient to admit the cock and hen ind in them. The firſt range of theſe neſts ld not be leſs than four feet from the ground, e wall underneath being ſmooth, the rats not be able to reach them. Theſe neſts ld be placed in quincunx order, and not di- over one another. Nor muſt they be conid any higher than within three feet of the of the wall, and the upper row ſhould be co- with a board projecting a conſiderable diſt from the wall, for fear the rats ſhould find to climb the outſide of the houſe.

PIGEON-HOUSE, a hill on the coaſt of New land, abounding with pigeons. Lon. 209. 42. Lat. 35. 19. S.

PIGEON ISLAND, an iſland near the E. coaſt ylon; 10 miles NNW. of Trinkamaly.

PIGEON ISLAND, an iſland 8 miles from coaſt of Malabar, and 15 from Onore. Lon. 6. E. Lat. 14. 1. N.

PIGEONLIVERED. *adj.* [*pigeon* and *liver*.] d; ſoft: gentle.—

I am *pigeonliver'd*, and lack gall
o make oppreſſion bitter. *Shak.*

PIGGIN. *n. ſ.* In the northern provinces, a ll veſſel.

PIGHIUS, Stephen Vinaud, a learned antiy, born at Campen in Overyſſel, in 1520. He t to Rome, and was patroniſed by Card. arnele, who made him his librarian. The ed are indebted to him for the firſt good e- n of *Valerius Maximus*, in 1585, 8vo. He me preceptor to Pr. Charles of Juliers, who , he wrote a panegyric upon him, on which ther Pr. William made him canon of San- where he died in 1604, aged 84. His *Annaes Faſti Romanorum Magiſtratuum et Provinm*, were publiſhed by Schottus in 1615, in ole fol.

* PIGHT. old preter. and part. paſſ. of *pitch*. Pitched; placed; fixed: determined. Not in uſe.—

An hideous rock is *pight*,
Of mighty Magnes ſtone. *Spenſer.*

The body big and mightily *pight*,
Thoroughly rooted and wondrous height.
Spenſer.

Then brought ſhe me into this deſert waſt,
And by my wretched lover's ſide me *pight*.
Spenſer.

Stay yet, you vile abominable tents,
Thus proudly *pight* upon our Phrygian plains.
Shak.

When I diſſuaded him from his intent,
I found him *pight* to do it. *Shak.*

PIGMATKA, a town of Ruſſia, in Olonetz, on the N. coaſt of Lake Onezſkoe; 16 miles SE. of Povenetz.

(1.) * PIGMENT. *n. ſ.* [*pigmentum*, Lat.] Paint; colour to be laid on any body.—Conſider about the opacity of the corpuſcles of black *pigments*. *Boyle.*

(2.) PIGMENTS, preparations uſed by painters, dyers, &c. to impart colours to bodies, or to imitate particular colours. See COLOUR-MAKING, and DYEING.

(1.) PIGMIES, a people of Ethiopia. See ETHIOPIA, § 3.

(2.) PIGMIES, ISLE OF, an iſlet of Scotland, near Lewis, ſo named becauſe bones, reſembling human bones, but of very ſmall dimenſions, have been dug up in it.

(3.) * PIGMY. *n. ſ.* [*pigmée*, Fr. *pygmæus*, Lat. πυγμαῖος.] A ſmall nation, fabled to be devoured by the cranes; thence any thing mean or inconſiderable? it ſhould be written with a *y*, *pygmy*.—Of ſo low a ſtature, that in relation to the other, they appear as *pigmies*. *Heylyn.*—

When cranes invade, his little ſword and ſhield
The *pigmy* takes. *Dryden.*

—The criticks may diſcover ſuch beauties in the antient poetry, as may eſcape the comprehenſion of us *pigmies* of a more limited genius. *Garth.*—

It might have been a *pigmy*'s tomb. *Swift.*

PIGNA, a town of the French republic, in the dep. of the Maritime Alps, and ci-devant county of Nice, 9 miles NE. of Ventimiglia, and 20 NE. of Nice.

PIGNAN, a town of France, in the dep. of Herault, 5 miles W. of Montpellier, and 8 N. of Frontignan.

PIGNANS, a town of France, in the department of the Var, 18 miles NE. of Toulon.

PIGNEROL, or PIGNEROLA, a town of the French republic, in the dep. of the Po, and ci-devant province of Piedmont, ſituated on the river Chizon, 10 miles SW. of Turin, at the foot of the Alps. The town is ſmall, but populous, and is extremely well fortified. It is defended by a citadel, on the top of the mountain, near which is the caſtle of Perouſe, at the entrance of the valley of that name.

PIGNEY, a town of France, in the dep. of Aube, and ci-devant prov. of Champagne, 12 miles NE. of Troyes. Lon. 4. 25. E. Lat. 45. 0. N.

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* PIGNORATION. *n. f.* [*pignora*, Lat.] The act of pledging.

PIGNORIUS, Lawrence, a learned Italian, born at Padua, in 1571, and bred an eccleſiaſtic. He made deep reſearches into antiquity, and publiſhed ſeveral curious works in Italian and Latin, particularly *Menſa Iſiaca*, on the antiquities of Egypt. The great Galileo procured him the offer of a profeſſorſhip at Piſa, but he declined it. In 1630, he was made a canon in Treviſio, but died of the plague in 1631.

(1.) * PIGNUT. *n. f.* [*pig* and *nut*.] An earth nut.—

I with my long nails will dig thee *pignuts*.
Shak.

(2.) PIG-NUT. See BUNIUM.

* PIGSNEY. *n. f.* [*piga*, Sax. a girl.] A word of endearment to a girl. It is uſed by *Butler* for the eye of a woman, I believe, improperly.—

Shine upon me but benignly
With that one, and that other *pigſney*. *Hudib.*

PIGUS, in ichthyology, a ſpecies of leather-mouthed fiſh, very much reſembling the common carp; being of the ſame ſhape and ſize, and its eyes, fins, and fleſhy palate, exactly the ſame; from the gills to the tail there is a crooked dotted line; the back and ſides are bluiſh, and the belly reddiſh. It is covered with large ſcales from the middle of each of which there riſes a fine pellucid prickle, which is very ſharp. It is an excellent fiſh for the table, being perhaps preferable to the carp: and it is in ſeaſon in the months of March and April. It is caught in lakes in ſome parts of Italy, and is mentioned by Pliny, tho' without a name. Artedi ſays it is a ſpecies of cyprinus, and he ſtiles it the *cyprinus*, called *piclo* and *pigus*.

(1.) PIGWAKKET, a town of the United States, in Main, 27 miles NW. of Portland.

(2.) PIGWAKKET, a river of the United States, which runs into the Saco, 5 miles S. of the above town, N° 1.

* PIGWIDGEON. *n. f.* This word is uſed by *Drayton* as the name of a fairy, and is a kind of cant word for any thing petty or ſmall.—

By Scotch invaſion to be made a prey
To ſuch *pigwidgeon* myrmidons as they.
Cleaveland.

PI-HAHIROTH, a mouth or narrow paſs between two mountains, called *Chiroth* or *Eiroth*, and lying not far from the bottom of the W. coaſt of the Arabian gulf; before which mouth the children of Iſrael encamped, juſt before their entering the Red Sea. *(Wells.)*

PIHLERN, a town of Auſtria, 3 m. SW. Steyr.

PIISSKER, in ichthyology, is a fiſh of the MUSTELA kind, commonly called the *foſſil muſtela*, or *foſſil fiſh*. They are generally found as long as a man's hand is broad, and as thick as one's finger; but they ſometimes grow much longer: the back is grey with a number of ſpots and traverſe ſtreaks, partly black and partly blue; the belly is yellow, and ſpotted with red, white, and black; the white are the larger, the others look as if they were made with the point of a needle; and there is on each ſide a longitudinal black and white line. There are ſome fleſhy excreſcences at the mouth, which are expanded in ſwimming, but contracted when out of the water. Theſe fiſhes run into caverns of the earth, in the ſides of rivers, in marſhy places, and penetrate a great way, and are often dug up at a diſtance from waters. Often, when the waters of brooks and rivers ſwell beyond their banks, and again cover them, they make their way out of the earth into the water; and when it deſerts them, they are often left in vaſt numbers upon the ground, and become a prey to fowls. It is thought to be much of the ſame kind with the ſiſgum fiſh; and it is indeed poſſible that the præcilia of Schonefeldt is the ſame.

(1.) * PIKE. *n. f.* [*picque*, Fr. his ſnout being ſharp. *Skinner* and *Junius*.] 1. The luce or jack is the tyrant of the freſh waters: Sir Francis Bacon obſerves the *pike* to be the longeſt lived of any freſh water fiſh, and yet he computes it to live uſually above forty years; and others think it to be not above ten years: he is a ſolitary, melancholick and bold fiſh; he breeds but once a year, and the time of breeding or ſpawning is uſually about the end of February, or ſomewhat later, in March, as the weather proves colder or warmer: and his manner of breeding is thus; a he and a ſhe *pike* will uſually go together out of a river into ſome ditch or creek, and the ſpawner caſts her ſpawn, and the melter hovers over her all the time ſhe is caſting her ſpawn, but touches her not. *Walton's Angler.*—In a pond into which were put ſome fiſh and two *pikes*, upon drawing it ſome years afterwards there were left no fiſh, but the *pikes* grown to a prodigious ſize, having devoured the other fiſh and their numerous ſpawn. *Hale.*—

The *pike* the tyrant of the floods. *Pope.*

2. [*Pique*, Fr.] A long lance uſed by the foot ſoldiers, to keep off the horſe to which bayonets have ſucceeded.—

Beat you the drum that it ſpeak mournfully.
Trail your ſteel *pikes*.
He wanted *pikes* to ſet before his archers.

—Their *pikes* they ſtrained in both hands, and therewith their buckler in the left, the one end of the *pike* againſt the right foot, the other held high againſt the enemy. *Hayward.*—

A lance he bore with iron *pike*. *Hudibras.*

3. A fork uſed in huſbandry; a pitch-fork.—

A *pike* to *pike* them up handſome to drie.
Tuſſer.

—Let us revenge this with our *pikes*. *Shak.*

Among turners, two iron ſprigs between which any thing to be turned is faſtened.—Hard wood prepared for the lathe with raſping, they put between the *pikes*. *Moxon.*

(2.) PIKE, in ichthyology. See ESOX. The pike never ſwims in ſhoals as moſt other fiſhes do, but always lies alone; and is ſo bold and ravenous, that he will ſeize upon almoſt any thing bigger than himſelf. Inſtances of the voracity of this fiſhes are ſo numerous and well known, that it is unneceſſary to quote them. They breed but once a year, in March. They are found in almoſt all freſh waters; but very different in goodneſs according to the nature of the places where they live. The fineſt pikes are found in clear rivers; thoſe in ponds and meres are inferior, and the worſt are thoſe of the fen ditches. They are very plentiful in theſe laſt places, where the wa-

ter

it is foul and coloured; and their food, such as gs and the like, plentiful but coarse; so that ey grow large, but are yellowish and high bel-d, and differ greatly from those which live in e clearer waters. The fishermen have two incipal ways of catching pikes, by the ledger, d the walking bait. The ledger bait is fixed in e certain place, and may continue while the ker is absent. This must be a live bait, a fish frog: and among fish, the dace, roach, and gud-on, are the best; of frogs, the only caution is choose the largest and yellowest that can be t with. If the bait be a fish, the hook is to be t through the upper lip, and the line must be yards at least in length; the other end of this to be tied to a bough of a tree, or to a stick ven into the ground near the pike's haunt, and the line wound round a forked stick, except a-ut half a yard. The bait will by these means ep playing so much under water, that the pike ill soon lay hold of it. If the bait be a frog, en the arming wire of the hook should be put at the mouth, and out at the side; and with a edle and some strong silk, the hind leg of one e is to be fastened by one stitch to the wire ing of the hook. The pike will soon seize it, and must have line enough to give him leave get to his haunt and poach the bait. The trol-g for pike is a pleasant method also of taking m: in this a dead bait serves, and none is so per as a gudgeon. This is to be pulled about the water till the pike seizes it; and then he is ve line enough, and time to swallow it: the t is small for this sport, and has a smooth ce of lead fixed at its end to sink the bait; and e line is very long, and runs through a ring at e end of the rod, which must not be too slender top. The art of feeding pikes, to make them y fat is by giving them eels; otherwise perches, ole small, and their prickly fins tender, are the st food for them. Breams put into a pike-pond e a very proper food: they will breed freely, d their young ones make excellent food for e pike. The numerous shoals of roaches and ds, which are continually changing place, and en in floods get into the pike's quarters, afford od for them for a long time. Pikes, when used be fed by hand, will come up to the very shore, d take the food that is given them out of the gers of the feeder. It is wonderful to see with at courage they will do this, after a while prac-ing; and it is very diverting, when there are se-ral of them nearly of the same size, to see what riving and fighting there will be for the best bits at are thrown in. The most convenient place near the mouth of the pond, and where there about half a yard depth of water; for, thus, e offal of the feedings will all lie in one place, d the deep water will serve for a place to re-re into and rest in, and will be always clean and order.

(3.) PIKE, in war, an offensive weapon, con-sting of a wooden shaft, 12 or 14 feet long, with flat steel head, pointed, called the *spear*. This eapon was long in use among the infantry; but ow the bayonet, which is fixed on the muzzle of the firelock, is substituted in its stead.

(1.) *To* PIKE, *v. a.* To murder with a pike. This verb owes its origin and use in this sense, to the horrors of the French revolution, when so many unfortunate prisoners were piked to death by *Septembrisers* at Paris, without trial by judge or jury in Sept. 1792. It is also used as an active verb, in husbandry, by *Tusser*, in the passage above quoted by Dr Johnson, under PIKE, § 1, *def.* 3.

(3.) *To* PIKE. *v. n.* To peep. *Chaucer.* This sense is obsolete, as is also the active sense in which that poet also uses it,—To pick out, to pitch upon.

* PIKED. *adj.* [*piqué*, Fr.] Sharp; accuminated; ending in a point. In *Shakespeare*, it is used of a pointed beard.—

Why then I suck my teeth, and catechise
My *piked* man of countries. *Shak.*

PIKELAND, a town of Pennsylvania, in Chester county.

* PIKEMAN. *n. s.* [*pike* and *man.*] A soldier armed with a pike.—Three great squadrons of *pikemen* were placed against the enemy. *Knolles.*

* PIKESTAFF. *n. s.* [*pike* and *staff.*] The wooden pole of a pike.—To me it is as plain as a *pikestaff*, from what mixture it is, that this daughter silently lowers, t'other steals a kind look. *Tatler.*

(1.) PILA, in antiquity, was a ball variously made according to the different games in which it was to be used. Playing at ball was very common amongst the Romans of the first distinction, and was looked upon as a manly exercise, which contributed both to amusement and health. The pila was of four sorts: 1st, *Follis* or *balloon*; 2d, *Pila Trigonalis*; 3d, *Pila Paganica*; 4th, *Harpastum*. All these come under the general name of pila. For the manner of playing with each of them, see the articles FOLLIS, and TRIGONALIS.

(2.) PILA MARINA, or the SEA BALL, in natural history, a substance very common on the shores of the Mediterranean, and elsewhere. It is generally found in the form of a ball about the size of the balls of horse-dung, and composed of a variety of fibrillæ irregularly complicated. Various conjectures have been given of its origin by different authors. John Bauhine tells us, that it consists of small hairy fibres and straws, such as are found about the sea plant called *alga vitriariorum*; but he does not ascertain what plant it owes its origin to. Imperatus imagined it consisted of the exuviæ both of vegetable and animal bodies. Mercatus is doubtful whether it be a congeries of the fibrillæ of plants, wound up into a ball by the motion of the sea-water, or whether it be not the workmanship of some sort of beetle living about the sea shore, and analogous to our common dung beetle's ball, which it elaborates from dung for the reception of its progeny. Schreckius says it is composed of the filaments of some plant of the reed kind: and Welchius supposes it is composed of the pappous part of the flowers of the reed. Maurice Hoffman thinks it the excrement of the Hippopotamus; and others think it that of the sea calf. Klein, who had thoroughly and minutely examined the bodies themselves, and also what authors had conjectured concerning them, thinks that they are wholly owing to, and entirely composed of, the capillaments which the leaves, growing to the woody stalk of the *alga vitriariorum*, have when they wither and decay. These leaves, in their natural

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natural ſtate, are as thick as a wheat ſtraw, and they are placed ſo thick about the tops and extremities of the ſtalks, that they enfold, embrace, and lie over one another; and from the middle of theſe cluſters of leaves, and indeed from the woody ſubſtance of the plant itſelf, there ariſe ſeveral other very long, flat, ſmooth, and brittle leaves. Theſe are uſually four from each tuft of the other leaves; and they have ever a common vagina, which is membranaceous and very thin. This is the ſtyle of the plant, and the *pila marina* appears to be a cluſter of the fibres of the leaves of this plant, which cover the whole ſtalk, divided into their conſtituent fibres; and by the motion of the waves firſt broken and worn into ſhort ſhreds, and afterwards wound up together into a roundiſh or longiſh ball.

(1.)* PILASTER. *n. ſ.* [*pilaſtre*, Fr. *pilaſtro*, Ital.] A ſquare column ſometimes inſulated, but oftener ſet within a wall, and only ſhewing a fourth or a fifth part of its thickneſs. *Dict.*—*Pilaſters* muſt not be too tall and ſlender. *Wotton.*—

Built like a temple, where *pilaſters* round
Were ſet. *Milton.*

—The curtain riſes, and a new frontiſpiece is ſeen, joined to the great *pilaſters* on each ſide of the ſtage. *Dryden.*—

Clap four ſlices of *pilaſters* on't. *Pope.*

(2.) PILASTER. See ARCHITECTURE, *Index.*

PILATE, PONTIUS, was governor of Judea when our Lord was crucified. Of his family or country we know but little, though it is believed that he was of Rome, or at leaſt of Italy. He was ſent to govern Judea in the room of Gratus, A. D. 26 or 27, and governed this province for ten years, from the 12th or 13th year of Tiberius to the 22d or 23d. He is repreſented both by Philo and Joſephus as a man of an impetuous and obſtinate temper, as a judge who uſed to ſell juſtice, and to pronounce any ſentence that was deſired, provided he was paid for it. They likewiſe ſpeak of his rapines, murders, oppreſſions, and the torments that he inflicted upon the innocent, and the perſons he put to death without any form of proceſs. Philo, in particular, deſcribes him as having exerciſed an exceſſive cruelty during his whole government, diſturbed the repoſe of Judea, and given occaſion to the troubles and revolt that followed. St Luke records his maſſacre of the Galileans in the temple. (xiii. 1, 2, &c.) His fruitleſs endeavours to deliver our Saviour from the hands of his enemies; his wife's alarming dream and meſſage to him; his repeated declarations of our Saviour's innocence; his vain endeavour to gratify the malice of the Jews by whipping him; his equally fruitleſs attempt to get rid of pronouncing ſentence by ſending him to Herod; his declaration of his utter averſion to condemn the innocent by waſhing his hands; with the conſequent imprecation of the Jews upon themſelves and their poſterity; his want of reſolution to acquit him; his inſcription upon the croſs in different languages; with his reply to the Jews, when they challenged it; and his delivery of the body to Joſeph and Nicodemus, are recorded by the Evangeliſts.—Juſtin Martyr, Tertullian, Euſebius, and after them ſeveral others both ancient and modern, aſſure us, that it was formerly the cuſtom for Roman magiſtrates to prepare copies of all verbal proceſſes and judicial acts which they paſſed in their ſeveral provinces, and to ſend them to the emperor. And Pilate, having accordingly ſent word to Tiberius of what had paſſed relating to Jeſus Chriſt, the emperor wrote an account of it to the ſenate, in a manner that gave reaſon to judge that he thought favourably of the religion of Jeſus Chriſt, and ſhowed that he ſhould be willing they would decree divine honours to him. But fortunately the ſenate was not of the ſame opinion, and ſo the matter was dropped; otherwiſe modern infidels would have aſcribed the ſubſequent rapid and univerſal ſucceſs of Chriſtianity to the imperial power and influence of Tiberius. It appears by what Juſtin ſays of theſe acts, that the miracles of Jeſus Chriſt were mentioned there, and that the ſoldiers had divided his garments among them. Euſebius inſinuates that they ſpoke of his reſurrection and aſcenſion. Tertullian and Juſtin refer to theſe acts with ſo much confidence as would make one believe they had them in their hands. However, neither Euſebius nor St Jerome, who were both inquiſitive, underſtanding perſons, nor any other author that wrote afterwards, ſeem to have ſeen them, at leaſt not the true and original acts; for as to what we have now in great numbers, they are not authentic, being neither ancient nor uniform. There are alſo ſome pretended letters of Pilate to Tiberius, giving a hiſtory of our Saviour, but they are univerſally allowed to be ſpurious. Pilate having, by his exceſſive cruelties and rapine, diſturbed the peace of Judea during the whole time of his government, was at length depoſed by Vitellius, the proconſul of Syria, A. D. 36. and ſent to Rome to give an account of his conduct to the emperor. Tiberius having died before Pilate arrived at Rome, his ſucceſſor Caligula baniſhed him to Vienne in Gaul, where he was reduced to ſuch extremity that he killed himſelf. He was only procurator of Judea, though the evangeliſts call him governor, becauſe he in effect acted as one, by taking upon him to judge in criminal matters. See *Calmet's Dict. Ecclef. Hiſt.* and *Beauſobre's Annot.* With regard to Pilate's wife, the general tradition is, that ſhe was named Claudia Procula or Proicula; and as to her dream, ſome think that as ſhe had intelligence of our Lord's apprehenſion, and knew by his character that he was a righteous perſon, her imagination, ſtruck with theſe ideas, naturally produced the dream we read of; but others think that the dream was ſent miraculouſly, for the clearer manifeſtation of our Lord's innocence.

PILATRE DU ROSIER, Francis, was born at Metz the 30th of March, 1756. He was firſt apprentice to an apothecary there, and afterwards went to Paris in queſt of improvement. He applied himſelf to the ſtudy of natural hiſtory and of natural philoſophy, and had already acquired ſome reputation, when the diſcovery of M. Montgolfier had juſt aſtoniſhed the learned world. On the 25th Oct. 1783, he attempted an aerial voyage with the Marquis of Arlande. He performed ſeveral other excurſions in this way with brilliant ſucceſs, in the preſence of the royal family of France, of the king of Sweden, and of Prince Henry of Pruſſia. He then reſolved to paſs into England

ngland by means of his aerial vehicle, and for at purpose he repaired to Boulogne, whence he ſe about 7 o'clock in the morning of the 15th ne, 1785; but in half an hour after he ſet out, e balloon took fire, and the aeronaut, with his mpanion M. Romaine, were cruſhed to death the fall of that machine, which was more inge-ous, perhaps, than uſeful. (See AEROSTATION, *dex.*) Pilatre's ſocial virtues and courage, which re very diſtinguiſhed, heightened the regret of friends for his loſs. His merit as a chemiſt, d his experiments as an aeronaut, procured him e pecuniary reward, and ſome public appoint-ts. He had a penſion from the King, was in-ſtant of Monſieur's cabinets of natural philoſo-, chemiſtry, and natural hiſtory, profeſſor of ural philoſophy, a member of ſeveral academies, principal director of Monſieur's muſeum.

PILAYO and PASPAYA, a province or juriſdic-of S. America in the government of Buenos es, and archbiſhopric of La Plata.

PILCHARD, or } *n. ſ.* in ichthyology, a fiſh
(2.) PILCHER, } which has a general likeneſs he herring, but differs in ſome particulars very ially. The body is leſs compreſſed than that he herring, being thicker and rounder: the ſs ſhorter in proportion, and turns up; the r jaw is ſhorter. The back is more elevated; ly leſs ſharp. The dorſal fin of the pilchard ced exactly in the centre of gravity, ſo that taken up by it, the body preſerves an equi-m, whereas that of the herring dips at the The ſcales of the pilchard adhere very , whereas thoſe of the herring very eaſily off. The pilchard is in general leſs than the , but it is fatter, or more full of oil. Pil-s appear in vaſt ſhoals off the Corniſh coaſts the middle of July, diſappearing the begin-of winter, yet ſometimes a few return after nas. Their winter retreat is the ſame with of the herring, and their motives for migra-the ſame. See CLUPEA. They affect, du-ummer, a warmer latitude; for they are not in any quantities on any of our coaſts ex-thoſe of Cornwall, that is to ſay, from Fowey r to the Scilly iſles, between which places oals keep ſhifting for ſome weeks. The ap-ch of pilchards is known by the ſame ſigns as that indicate the arrival of the herrings. ia, called in Cornwall *huers*, are placed on liffs, to point to the boats ſtationed off the the courſe of the fiſh. By the 1ſt of James 23, fiſhermen are empowered to go on the nds of others to hue, without being liable to ns of treſpaſs, which before occaſioned fre-t law-ſuits. Dr W. Borlaſe, in his *Account Pilchard Fiſhery*, ſays, "It employs a great ber of men on the ſea; and men, women, and ren, at land, in ſalting, preſſing, waſhing, and ing, in making boats, nets, ropes, caſks, all the trades depending on their conſtruction ſale. The uſual number of hogſheads of fiſh ted each year, for ten years, from 1747 to inclufive, from the four ports of Fowey, Fal-th, Penzance, and St Ives, in all amounted to 4; Fowey has exported yearly 1732 hogſ-ds; Falmouth, 14,631½ hogſheads; Penzance Mounts-Bay, 12,149½ hogſheads; St Ives, 1282 hogſheads. Every hogſhead for ten years laſt paſt, together with the bounty allowed for each when exported, and the oil made out of each, has amounted, one year with another at an aver-age, to the price of L. 1 : 13 : 3; ſo that the caſh paid for pilchards exported has, at a medium, an-nually amounted to the ſum of L. 49,532 : 10.' The numbers that are taken at one ſhooting out of the nets is amazingly great. Mr Pennant ſays, that Dr Borlaſe aſſured him, that on the 5th of October 1767, there were at one time incloſed in St Ives's Bay 7000 hogſheads, each hogſhead con-taining 35,000 fiſh, in all 245,000,000.

(2.)* PILCHER. *n. ſ.* [*Warburton* ſays we ſhould read *pilche*, which ſignifies a cloke or coat of ſkins, meaning the ſcabbard: this is confirmed by *Junius*, who renders *pilly*, a garment of ſkins; *pylece*, Sax. *pellice*, Fr. *pelliccia*, Ital. *pellis*, Lat.] 1. A furred gown or caſe; any thing lined with fur. *Hanmer.*

Pluck your ſword out of his *pilcher* by the ears. *Shak.*

2. A fiſh like a herring much caught in Cornwal.

PILCHOWITZ, a town of Sileſia, in Oppeln; 6 miles SSW. of Gleiwitz, and 28 ESE. of Upper Glogau.

(1.)* PILE. *n. ſ.* [*pile*, Fr. *pyle*, Dutch.] 1. A ſtrong piece of wood driven into the ground to make a firm foundation.—The bridge the Turks before broke, by plucking up of certain *piles*, and taking away of the planks. *Knolles.*—If the ground be hollow or weak, he ſtrengthens it by driving in *piles*. *Moxon.*—The foundation of the church of Harlem is ſupported by wooden *piles*, as the houſes in Amſterdam are. *Locke.* 2. A heap; an accumulation.—

Bury all which yet diſtinctly ranges
In heaps and *piles* of ruin. *Shak.*

What *piles* of wealth hath he accumulated
To his own portion! *Shak.*

—By the water paſſing through the ſtone to its perpendicular intervals, was brought thither all the metallic matter now lodged therein, as well as that which lies only in an undigeſted and confuſed *pile*. *Woodward.* 3. Any thing heaped together to be burned.—

I'll bear your logs the while; pray give me it,
I'll carry't to the *pile* *Shak. Tempeſt.*

—Woe to the bloody city, I will even make the *pile* for fire great. *Ezekiel* xxiv. 9.—In Alexander's time, the Indian philoſophers, when weary of living, lay down upon their funeral *pile* without any viſible concern. *Collier.*—

The wife, and counſellor or prieſt,
Prepare and light his fun'ral fire,
And cheerful on the *pile* expire. *Prior.*

4. An edifice; a building.—

Th' aſcending *pile* ſtood fixed. *Milton.*
Not to look back ſo far, to whom this iſle
Owes the firſt glory of ſo brave a *pile*. *Denham.*
The *pile* o'erlook'd the town. *Dryden.*
Fancy brings the vaniſh'd *piles* to view. *Pope.*
A *pile* ſhall from its aſhes riſe,
Fit to invade or prop the ſkies. *Swift.*

5. A hair. [*pilus*, Lat.] His left cheek is a cheek of two *pile* and a half, but his right cheek is worn bare. *Shak. All's well.* 6. Hairy ſurface; nap.—Many other ſorts of ſtones are regularly figured; the amianthus of parallel threads, as in the *pile* of velvet

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velvet. *Green.* 7. [*Pilum*, Lat.] The head of an arrow.—

There ſtucke the ſteele *pile*, making way
Quite through his ſkull. *Chapman.*

The *pile* was of a horſe fly's tongue,
Whoſe ſharpneſs nought revers'd. *Drayton.*

8. [*Pile*, Fr. *pila*, Italian.] One ſide of a coin; the reverſe of croſs.—A man may more juſtifiably throw up croſs and *pile* for his opinions, than take them up ſo. *Locke.* 9. [In the plural, *piles*.] The hæmorrhoides.—Solicit the humours towards that part, to procure the *piles*, which ſeldom miſs to relieve the head. *Arbuthnot.*

(2.) PILE, in heraldry, an ordinary in form of a wedge, contracting from the chief, and terminating in a point towards the bottom of the ſhield.

(3.) PILE, among the Greeks and Romans, was a pyramid built of wood, whereon were laid the bodies of the deceaſed to be burnt. It was partly in the form of an altar, and differed in height according to the quality of the perſon to be conſumed. Probably it might originally be conſidered as an altar, on which the dead were conſumed as a burnt-offering to the infernal deities. The trees made uſe of in the erection of a funeral pile were ſuch as abounded in pitch or roſin, as being moſt combuſtible; if they uſed any other wood, it was ſplit that it might the more eaſily catch fire. Round the pile were placed cypreſs boughs to hinder the noiſome ſmell. See FUNERAL.

(4.) PILE, in coinage, denotes a kind of puncheon, which, in the old way of coining with the hammer, contained the arms or other figure and inſcription to be ſtruck on the coin. See COINAGE. Accordingly we ſtill call the arms ſide of a piece of money the *pile*, and the head the *croſs*; becauſe in ancient coin, a croſs uſually took the place of the head in ours.

* *To* PILE. *v. a.* 1. To heap; to coacervate

The fabrick of his folly, whoſe foundation
Is *pil'd* upon his faith. *Shak. Wint. Tale.*

Pile ten hills on the Tarpeian rock. *Shak.*

Hills *pil'd* on hills, on mountains mountains lie,
To make their mad approaches to the ſky. *Dryd.*

Men *pil'd* on men, with active leaps ariſe.
Addiſon.

—In all that heap of quotations which he has *piled* up, nothing is aimed at. *Atterbury.*—Thoſe heaps of comments, which are *piled* ſo high upon authors, that it is difficult ſometimes to clear the text from the rubbiſh. *Felton.* 2. To fill with ſomething heaped.—Attabalipa had a great houſe *piled* upon the ſides with great wedges of gold. *Abbot's Deſcript. of the World.*

* PILEATED. *adj.* [*pileus*, Lat.] Having the form of a cover or hat.—A *pileated* echinus taken up with different ſhells of ſeveral kinds. *Woodward on Foſſils.*

PILE-ENGINE, *n. ſ.* a very curious machine invented by Mr Vauloue for driving the piles of Weſtminſter-bridge; but of which we need not give any deſcription; as a new machine for driving piles has been invented lately by Mr S. Bunce of London which will drive a greater number of piles in a given time than any other; and can be conſtructed more ſimply to work by horſes than Mr Vauloue's engine. *Fig.* 1 & 2, *Plate* CCLXXIV. repreſent a ſide and front ſection of the machine. The chief parts are A, *fig.* 1. which are two endleſs ropes, or chains connected by croſs pieces of iron B (ſee *fig.* 2.) corresponding with two croſs grooves cut diametrically oppoſite in the wheel C (*fig.* 1.), into which they are received; and by which means the rope or chain A is carried round. FHK is a ſide view of a ſtrong wooden frame moveable on the axis H. D is a wheel, over which the chain paſſes and turns within at the top of the frame. It moves occaſionally from F to upon the centre H, and is kept in the poſition by the weight I fixed to the end K. *Fig.* 3. the iron ram, which is connected with the croſs pieces by the hook M. N is a cylindrical piece of wood ſuſpended at the hook at O, which by ſliding freely upon the bar that connects the hook to the ram, always brings the hook upright over the chain when at the bottom of the machine in the poſition of GP. See *fig.* 1.—When the ram at S turns the uſual crane-work, the ram being connected to the chain, and paſſing between the guides, is drawn up in a perpendicular direction and when it is near the top of the machine, the projecting bar Q of the hook ſtrikes againſt a croſs piece of wood at R (*fig.* 1.); and conſequently diſcharges the ram, whilſt the weight I of the moveable frame inſtantly draws the upper wheel into the poſition ſhown at F, and keeps the chain free of the ram in its deſcent. The hook, while deſcending, is prevented from catching the chain by the wooden piece N. For that piece being ſpecifically lighter than the iron weight below, and moving with a leſs degree of velocity cannot come in contact with the iron till it is at the bottom and the ram ſtops. It then falls and again connects the hook with the chain, which draws up the ram, as before. Mr Bunce has made a model of this machine, which performs perfectly well; and he obſerves, that, as the motion of the wheel C is uninterrupted, there appears to be the leaſt poſſible time loſt in the operation.

* PILER. *n. ſ.* [from *pile*.] He who accumulates.

(1.) PILES. See MEDICINE, *Index.*

(2.) PILES, Roger DE, a learned French writer, born at Clamecy, of a good family, in 16[illegible]. He ſtudied at Nevers and Auxerre; then went to Paris for philoſophy, and ſtudied divinity in the Sorbonne. Meantime, he cultivated painting under Recollet. In 1652, he became preceptor to the ſon of M. Amelot, whom he accompanied to Italy, and on his return became famous as a connoiſſeur. In 1682, M. Amelot being ſent to an embaſſy to Venice, De Piles attended him as ſecretary; and during his reſidence there, he was ſent by the marquis of Louvois into Germany, to purchaſe pictures for Lewis XIV. and likewiſe to execute a private commiſſion on ſtate affairs. In 1685, he attended M. Amelot to Lisbon, and in 1689 to Switzerland, as ſecretary. In 1[illegible] he was ſent incog. to Holland, as a virtuoſo, but in reality to act as a ſpy. Being detected, he was put in priſon, where he continued till the peace of Ryſwick, and where he wrote his *Lives of the Painters*. In 1705, though in his 70th year, he attended M. Amelot on his embaſſy into Spain. He died in 1709. His other works are, 1. An Abridgment of Anatomy: 2. A Tranſlation of Freſno

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noy: 3. Dialogues on Painting: 4. A Differ-
on on the works of famous painters: 5. Ele-
nts of Painting: all in French.

'ILEUS, in Roman antiquity, was the ordinary
or hat worn at public ſhows and ſacrifices,
by the freedmen. It was one of the common
ards aſſigned to ſuch gladiators as were ſlaves,
oken of their obtaining freedom.

'ILE WORMS, are a kind of worms found in
piles of the ſea dikes in Holland. They are
ery various ſizes; for ſome of the young ones
not above an inch or two in length, while o-
s have been found thirteen or fourteen inches
g. The heads of theſe creatures are covered
h two hard ſhells or hemicrania; which toge-
r form a figure reſembling an augre; and with
ch they bore the wood. The beſt remedy a-
inſt them is, to perforate the pile with many
all holes about an inch aſunder; then it muſt
done over with a varniſh in the hotteſt ſun;
, while the varniſh is hot, brick duſt muſt be
ed over it: and this being ſeveral times re-
ted, the pile will be covered with a ſtrong
d abſolutely impenetrable to all inſects.

t.) * PILEWORT. *n. ſ.* [*chelidonium minus*,
.] A plant.

t.) PILEWORT, the RANUNCULUS FICARIA,
Linnæus, is a very ſmall plant, found in moiſt
dows and by hedge ſides. The roots conſiſt
ender fibres with ſome little tubercles among
m, which are ſuppoſed to reſemble the hæ-
roids. Thence it has been concluded, that
root muſt needs be of wonderful efficacy for
cure of that diſtemper: to the taſte, it is little
r than mucilaginous; and although ſtill re-
ed in ſeveral of the foreign pharmacopœias, it
rdly uſed in this country.

l.) * *To* PILFER. *v. a.* [*piller*, Fr.] To ſteal;
lin by petty robbery.—They *pilfer* away all
ey can from ſuch ſtrangers as do
. *Abbot.*—He would not *pilfer* the victory.
pe.—

Triumphant leaders, at an army's head,
Lemn'd round with glories, *pilfer* cloth or
bread. *Pope.*

.) * *To* PILFER. *v. n.* To practiſe petty
—

Such as baſeſt and the meaneſt wretches,
or *pilf'rings* and moſt common treſpaſſes,
re puniſh'd with. *Shak.*

A wall ſufficient to defend
Our inland from the *pilfering* borderers. *Shak.*

I came not here on ſuch a trivial toy
s a ſtray'd ewe, or to purſue the ſtealth
f *pilfering* wolf. *Milton.*

When theſe plagiaries come to be ſtript of their
ſtrad ornaments, there's the daw of the fable.
Strange.—

Ev'ry ſtring is told,
For fear ſome *pilf'ring* hand ſhould make too
bold. *Dryden.*

PILFERER. *n. ſ.* [from *pilfer*.] One who
s petty things.—Haſt thou ſuffered at any
e by vagabonds and *pilferers*? *Atterbury.*—

Thieves of renown, and *pilferers* of fame.
Young.

PILFERINGLY. *adv.* With petty larce-
y filchingly.

* PILFERY. *n. ſ.* [from *pilfer*.] Petty theft.
—A wolf charges a fox with a piece of *pilfery*.
L'Eſtrange.

PILGRAM, a town of Bohemia, in Bechin.

(1.) * PILGRIM. *n. ſ.* [*pelgrim*, Dutch; *pe-
lerin*, Fr. *pelegrino*, Italian; *peregrinus*, Lat.] A
traveller; a wanderer; particularly one who tra-
veis on a religious account.—Two *pilgrims*, which
have wandered ſome miles together, have a
heart's-grief when they are near to part. *Drum-
mond.*—They could not tell Abraham's footſtep
from an ordinary *pilgrim's*. *Stillingfleet.*—

Like *pilgrims* to th' appointed place we tend.
Dryden.

(2.) PILGRIMS travel through foreign countries
to viſit holy places, and to pay devotion to the
relics of dead ſaints. See PILGRIMAGE.

* *To* PILGRIM. *v. n.* [from the noun.] To
wander; to ramble. Not uſed.—The ambulo
hath no certain home or diet, but *pilgrims* up and
down every where. *Grew.*

(1.) * PILGRIMAGE. *n. ſ.* [*pelerinage*, Fr.]
1. A long journey; travel; more uſually a jour-
ney on account of devotion.—

A long and weary *pilgrimage*. *Shak.*
In laſting labour of his *pilgrimage*. *Shak.*

—Painting is a long *pilgrimage*. *Dryden.* 2. *Shake-
ſpeare* uſes it for time irkſomely ſpent.—

In priſon thou haſt ſpent a *pilgrimage*. *Shak.*

(2.) PILGRIMAGE is a kind of religious diſcip-
line, which conſiſts in taking a journey to ſome
holy place, in order to adore the relics of ſome
deceaſed ſaint. Pilgrimages began to be made
about the middle ages of the church; but they
were moſt in vogue after the end of the 11th cen-
tury, when every one was for viſiting places of
devotion, not excepting kings and princes them-
ſelves; and even biſhops made no difficulty of
being abſent from their churches on the ſame ac-
count. The places moſt viſited were Jeruſalem,
Rome, Compoſtella, and Tours: In 1428, in the
reign of Henry VI. many licences were granted
to captains of Engliſh ſhips, for carrying devout
perſons to the ſhrine of St James of Compoſtella
in Spain; provided that thoſe pilgrims ſhould
firſt ſwear not to take any thing prejudicial to
England, nor to reveal any of its ſecrets, nor to
carry out with them any more gold or ſilver, than
what would be ſufficient for their reaſonable ex-
pences. In this year there went out thither, the
following number of perſons: From London 280;
Briſtol 200, Weymouth 122, Dartmouth 90, Yar-
mouth 60, Jerſey 60, Plymouth 40, Exeter 30;
Liverpoole 24, Ipſwich 20; in all 926 pilgrims.
The greateſt numbers now reſort to Loretto, to
viſit the chamber of the bleſſed virgin, in which
ſhe was born, and brought up her ſon Jeſus till
he was 12 years of age. For the pilgrimages of
the followers of Mahomet, ſee MAHOMETANISM,
§ II. In every country where popery was eſta-
bliſhed, pilgrimages were common; and in thoſe
countries which are ſtill popiſh, they continue.
In England, the ſhrine of St Thomas à Becket
was the chief reſort of the pious; and in Scot-
land, St Andrew's; where, as tradition informs
us, was depoſited a leg of the holy apoſtle. In
Ireland they ſtill continue; for, from the begin-
ning of May till the middle of Auguſt every year,

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crowds of popiſh penitents from all parts of that country reſort to an iſland near the centre of *Lough-ſin*, or *White Lake*, in the county of Donegal, to the amount of 3000 or 4000. Theſe are moſtly of the poorer ſort, and many of them are proxies for thoſe who are richer; ſome of whom, however, with ſome of the prieſts and biſhops on occaſion, make their appearance there. When the pilgrim comes within ſight of the holy lake, he muſt uncover his hands and feet, and thus walk to the water ſide, and is taken to the iſland for ſixpence. Here there are two chapels and 15 other houſes; to which are added confeſſionals, ſo contrived, that the prieſt cannot ſee the perſon confeſſing. The penance varies according to the circumſtances of the penitent; during the continuance of which (which is ſometimes, 3, 6, or 9 days) he ſubſiſts on oat meal, ſometimes made into bread. He traverſes ſharp ſtones on his bare knees or feet, and goes through a variety of other forms, paying ſixpence at every different confeſſion. When all is over, the prieſt bores a gimblet hole through the pilgrim's ſtaff near the top, in which he faſtens a croſs peg; gives him as many holy pebbles out of the lake as he cares to carry away, for amulets to be preſented to his friends, and ſo diſmiſſes him, an object of veneration to all other papiſts not thus initiated; who no ſooner ſee the pilgrim's croſs in his hands, than they kneel down to get his bleſſing. There are, however, other parts of Ireland ſacred to extraordinary worſhip and pilgrimage; and the number of holy wells, and miraculous cures, &c. produced by them, is very great.

PILIATCHIN, a cape of Ruſſia, on the E. coaſt of the Penzinſkoi Sea; 372 miles ENE. of Ochotſk. Lon. 173. 0. E. Ferro. Lat. 60. 10. N.

PILIO, a town of Aſia, in Thibet.

PILIS, a town of Hungary, 8 miles SE. of Gran, and 18 NW. of Buda.

PILKALLEN, a town of Pruſſian Lithuania; 64 miles E. of Konigſberg.

PILKINGTON, Lætitia, a famous poetical genius, daughter of Dr Van Lewin, a phyſician of Dublin, where ſhe was born in 1712. She was married very young to the Rev. Matthew Pilkington, a poet alſo of no inconſiderable merit; and theſe two wits, as is often the caſe, lived very unhappily together. They were at length totally ſeparated, on the huſband accidentally diſcovering a gentleman in her bedchamber at two o'clock in the morning; a circumſtance which ſhe accounted for in a very unſatisfactory manner. After this unlucky adventure, Mrs Pilkington came to London; and having recourſe to her pen for ſubſiſtence, through the means of Colley Cibber, ſhe lived ſome time on the contributions of the great. She was, however, thrown into the Marſhalſea for debt; and being ſet at liberty, opened a pamphlet ſhop. She raiſed at length a handſome ſubſcription for her Memoirs; which are written with great ſprightlineſs and wit, containing ſeveral entertaining anecdotes of dean Swift, with whom ſhe was intimate, as well as many pretty little pieces of her poetry. This ingenious, but unhappy woman, is ſaid at laſt to have killed herſelf with drinking at Dublin, in 1750.

PILKOPEN, a town of Pruſſia, in Samland, on a mountain; 30 miles N. of Konigſberg.

(1.) * PILL. *n. ſ.* [*pilula*, Lat. *pillule*, French] 1. Medicine made into a ſmall ball or maſs.—In the taking of a potion or *pills*, the head and the neck ſhake. *Bacon.*—

When I was ſick, you gave me bitter *pills*. *Shak.*

Certain hard words made into *pills*. *Craſhaw.*

2. Any thing nauſeous.—

Call it diverſion, and the *pill* goes down. *Young.*

(2.) *A* PILL, in pharmacy, is a form of medicine reſembling a little ball, to be ſwallowed whole; invented for ſuch as cannot take bitter and ill taſted medicinal draughts; alſo to keep in readineſs for occaſional uſe without decaying. See PHARMACY, *Index*.

(3.) PILL, in geography, a town of Somerſetſhire, at the mouth of the Avon, 4 miles below Briſtol; exhibiting the moſt beautiful and romantic views.

(1.) * *To* PILL. *v. a.* [*piller*, Fr.] 1. To rob; to plunder.—

So did he all the kingdom rob and *pill*. *Spenſer.*

The commons hath he *pill'd* with grievous taxes. *Shak.*

Large handed robbers your grave mates are,
And *pill* by law. *Shak.*

—Suppoſe *pilling* and polling officers, as buſy upon the people, as thoſe flies were upon the ſea. *L'Eſtrange.*—

He who *pill'd* his province 'ſcapes the law. *Dryden.*

2. For *peel*; to ſtrip off the bark.—Jacob took him rods of green poplar and *pilled* white ſtreaks in them. *Geneſis*, xxx. 37.

(2.) * *To* PILL. *v. n.* To be ſtript away; to come off in flakes or ſcoriæ. This ſhould be *peel*, which ſee.—The whiteneſs *pilled* away from its eyes. *Tob.* xi. 13.

(1.) * PILLAGE. *n. ſ.* [*pillage*, Fr.] 1. Plunder; ſomething got by plundering or pilling.—

Which *pillage* they with merry march bring home. *Shak.*

2. The act of plundering.—

Thy ſons make *pillage* of her chaſtity. *Shak.*

(2.) PILLAGE BAY, a bay on the S. coaſt of Labrador. Lon. 62. 58. W. Lat. 50. 17. N.

* *To* PILLAGE. *v. a.* [from the noun.] To plunder; to ſpoil.—The conſul Mummius, after having beaten their army, took, *pillaged* and burnt their city. *Arbuthnot.*

* PILLAGER. *n. ſ.* [from *pillage*.] A plunderer; a ſpoiler.—

Jove's ſeed, the *pillager*,
Stood cloſe before. *Chapman.*

(1.) * PILLAR. *n. ſ.* [*pilier*, Fr. *pi'ar*, Spaniſh; *pilaſtro*, Italian; *piler*, Welſh and Armorick.] 1. A column.—*Pillars* or columns, I could diſtinguiſh into ſimple and compounded. *Wotton.*—

The palace built by Picus, vaſt and proud,
Supported by a hundred *pillars* ſtood. *Dryden.*

2. A ſupporter; a maintainer.—

Call them *pillars* that will ſtand to us. *Shak.*

The

The triple *pillar* of the world transform'd
Into a ſtrumpet's ſtool. *Shak.*
I charge you by the law,
Whereof you are a well deſerving *pillar*,
Proceed to judgment. *Shak.*

(2.) PILLAR, (§ 1. *Def.* 1.) See ARCHITECTURE, § 102, 109—117.

(3.) PILLAR, in the manege, is the centre of the ring, or manege ground, round which a horſe turns, whether there be a pillar in it or not. Beſides this, there are pillars on the circumference or ſides of the manege ground, placed at certain diſtances, by two and two, from whence they are called the *two pillars*, to diſtinguiſh them from that of the centre. The uſe of the pillar in the centre is for regulating the extent of ground, that the manege upon the volts may be performed with method and juſtneſs, and that they may work in a ſquare, by rule and meaſure, upon the four lines of the volts; and alſo to break unruly or high mettled horſes, without endangering the rider. The two pillars are placed at the diſtance of two or three paces one from the other; and the horſe is put between thoſe, to teach him to go before, and yerk out behind, and put himſelf upon raiſed airs, &c. either by the aids or chaſtiſements.

(4.) PILLAR, CAPE, a Cape at the W. end of the Straits of Magellan; 18 miles N. of Cape Deſire.

(5.) PILLAR, POMPEY'S. See ALEXANDRIA.

(6.) PILLARS, in antiquarian topography, are ſingle ſtones ſet up perpendicularly. Thoſe of them which are found in this country have been the work of the Druids; but as they are the moſt ſimple of all monuments, they are unquestionably more ancient than druidiſm itſelf. They were placed as memorials recording different events; ſuch as remarkable inſtances of God's mercies, contracts, ſingular victories, boundaries, and ſometimes ſepulchres. Various inſtances of theſe monuments erected by the patriarchs occur in the Old Teſtament: ſuch was that raiſed by Jacob at Lug, afterwards by him called *Bethel*; ſuch alſo was the pillar placed by him over the grave of Rachel. They were likewiſe marks of execrations and magical taliſmans. Theſe ſtones, from having long been conſidered as objects of veneration, at length were by the ignorant and ſuperſtitious idolatrouſly worſhipped; wherefore, after the introduction of Chriſtianity, ſome had croſſes cut on them, which were conſidered as ſnatching them from the ſervice of the devil. Vulgar ſuperſtition of a later date has led the common people to conſider them as perſons transformed into ſtone for the puniſhment of ſome crime, generally that of ſabbath-breaking; but this tale is not confined to ſingle ſtones, but is told alſo of whole circles: witneſs the monuments called the *hurlers* in Cornwall, *Rollorick ſtones* in Warwickſhire. The firſt by the vulgar ſuppoſed to have been once men, and thus transformed as a puniſhment for playing on the Lord's day at a game called *hurling*: the latter, a pagan king and his army.

(7.) PILLAR SAINTS. See HISTORY, *Part* II. VI.

* PILLARED. *adj.* [from *pillar*.] 1. Supported by columns.—

A *pillar'd* ſhade
High overarch'd. *Milton.*
If this fail,
The *pillar'd* firmament is rottenneſs. *Milton.*

2. Having the form of a column.—

Th' infuriate hill ſhoots forth the *pillar'd* flame. *Thomſon.*

(1.) PILLAU, a ſea port town of Pruſſia, in Samland, on a tongue of land that projects into the Baltic, at the entrance of Friſchhaff; and which, from its fertility and pleaſantneſs, is called the Paradiſe of Pruſſia. The town is frequented by people of various nations; the fort is a regular pentagon, and planted with cannon; and the magazine is well ſupplied with ſtores. Pillau is 22 miles WSW. of Konigſberg. Lon. 37. 46. E. Lat. 54. 37. N.

(2.) PILLAU, OLD, a village oppoſite to Pillau.

* PILLED GARLICK. *n. ſ.* 1. One whoſe hair has fallen off by a diſeaſe. 2. A ſneaking or henhearted fellow.

PILLERSTORF, a town of Auſtria, on the Ruſbach; 8 miles ENE. of Neuberg.

PILLIBEAT, a town of Indoſtan, in Oude.

PILLING MOSS, a moſs in Lancaſhire, between Garſtang and the ſea coaſt. In 1745, a conſiderable part of this moſs, after riſing to a great height, ſunk as much below the level; then moved ſlowly towards the S. ſide, and in half an hour covered 20 acres of ground. A family was driven out of their dwelling houſe, which was quickly after overthrown. About 100 acres of improved land adjacent to the moſs were overflowed with water and moſs.

* PILLION. *n. ſ.* [from *pillow*.] 1. A ſoft ſaddle ſet behind a horſeman for a woman to ſit on.—

The horſe and *pillion* both were gone;
Phyllis, it ſeems, was fled with John. *Swift.*

2. A pad; a pannel; a low ſaddle.—I thought that the manner had been Iriſh, as alſo the furniture of his horſe, his ſhank *pillion* without ſtirrups. *Spenſer*, 3. The pad of the ſaddle that touches the horſe.

(1.) * PILLORY. *n. ſ.* [*pillori*, Fr. *pillorium*, low Latin.] A frame erected on a pillar, and made with holes and moveable boards, through which the heads and hands of criminals are put.—I have ſtood on the *pillory* for the geeſe he hath killed. *Shak.*—

As thick as eggs at Ward in *pillory*. *Pope.*

—The jeers of a theatre, the *pillory* and the whipping-poſt are very near a kin. *Watts.*—

An opera, like a *pillory*, may be ſaid
To nail our ears down, but expoſe our head.
Young.

(2.) PILLORY, (*colliſtrigium*, *q. d. collum ſtringens*; *pilloria*, From the French *pilleur*, i. e. *depeculator*, or *pelori*; derived from the Greek, πυλη, *janua*, *a door*, becauſe one ſtanding on the pillory puts his head as it were through a door, and ωπτομαι, *to ſee*,) is an engine made of wood to puniſh offenders, by expoſing them to public view, and rendering them infamous. There is a *ſtatute of*

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the pillory, 51 Hen. III. And by ſtatute it is appointed for bakers, foreſtallers, and thoſe who uſe falſe weights, perjury, forgery, &c. 3 *Inſt.* 219. Lords of leets are to have a pillory and tumbrel, or it will be the cauſe of forfeiture of the leet; and a village may be bound by preſcription to provide a pillory, &c. 2 *Hawk.* P. C. 73.

* *To* PILLORY. *v. a.* [*pilorier*, Fr. from the noun.] To puniſh with the pillory.—To be burnt in the hand, or *pilloried*, is a more laſting reproach than to be ſcourged or confin'd. *Gov. of the Tongue.*

* PILLOW. *n. ſ.* [*pyle*, Saxon; *pulewe*, Dutch.] A bag of down or feathers laid under the head to ſleep on.—

Pluck ſtout men's *pillows* from below their heads. *Shak.*

One turf ſhall ſerve as *pillow* for us both. *Shak.*

—A ſtranger would needs buy a *pillow* there, ſaying, this *pillow* ſure is good to ſleep on, ſince he could ſleep on it that owed ſo many debts. *Bacon.*—

Thy melted maid,
Corrupted by thy lover's gold,
His letter at thy *pillow* laid. *Donne.*

—Their feathers ſerve to ſtuff our beds and *pillows*. *Ray.*

* *To* PILLOW. *v. a.* To reſt any thing on a pillow.—

The ſun in bed,
Curtain'd with cloudy red,
Pillows his chin upon an orient wave. *Milton.*

* PILLOWBEER. } *n. ſ.* The cover of a pillow.
* PILLOWCASE. } —When you put a clean *pillowcaſe* on your lady's pillow, faſten it well with pins. *Swift.*

PILLTOWN, a town of Ireland, in Waterford, Munſter.

PILNIKAW, a town of Bohemia, in Konigingratz; 5 miles SW. of Trautenau.

PILNITZ, a town of Upper Saxony, in the margraviate of Meiſſen, with a caſtle, belonging to the elector of Saxony; memorable for the treaty entered into between the emperor of Germany, the king of Pruſſia, and other princes of Europe, againſt France, in 1792. It lies 4 miles NW. of Perna, and 7 SE. of Dreſden.

PILON, Frederick, an Iriſh dramatic writer, born at Cork, in 1750. He was ſent to Edinburgh to ſtudy medicine, but the ſtage ſoon withdrew his attention from phyſic. He made his firſt appearance on the Edinburgh theatre in the character of *Oroonoko*. But though his conception was good, and his diſcrimination beyond common acting, yet he laboured under natural and inſuperable defects; his figure wanted grace, and his voice wanted harmony. His friends, however, being offended, he continued to act on the provincial theatres for 4 years, till 1776, when he went to London; where he publiſhed a *Critical Eſſay on Hamlet*, which procured him the patronage of Mr Colman. In 1776, he wrote *the Drama*, a poem, in the manner of Churchill's *Roſciad*; and *Regatta*, a poem on the Fete given on the Thames in 1776, both of which were well received. After various other miſcellaneous pieces, he publiſhed in 1778, *The Invaſion, or a Trip to Brighthelmſtone*, a Comedy, which was acted with applauſe at Covent Garden. After this, he wrote various pieces for the managers, but although they had drawn conſiderable houſes, his *Fair American*, an opera, was refuſed by the manager of Covent Garden; and though acted at Drury Lane, produced a diſpute with the manager, and much more trouble than profit to the author. His next Comedy was, *He would be a Soldier*, the profits of which to him were much inferior to what might have been expected, from its very great run. After this, being diſtreſſed by creditors, he went to France, where he wrote a comedy called *The Ward of Chancery*, but had not finiſhed it completely, when he returned to England, and died at Lambeth, in Jan. 1788.

* PILOSITY. *n. ſ.* [from *piloſus*, Lat.] Hairineſs.—At the years of puberty, all effects of heat do then come on, as *piloſity*, more roughneſs of the ſkin. *Bacon.*

(1.) * PILOT. *n. ſ.* [*pilote*, Fr. *piloot*, Dutch.] He whoſe office is to ſteer the ſhip.—

When her keel ploughs hell,
And deck knocks heaven, then to manage her
Becomes the name and office of a *pilot*.
Ben Jonſon.

To that port ourſelves we muſt not fore,
Before our *pilot*, Nature, ſteers our courſe.
Denham.

What port can ſuch a *pilot* find,
Who in the night of fate muſt blindly ſteer?
Dryden.

—The Roman fleet, although conducted by pilots without experience, defeated that of the Carthaginians. *Arbuthnot.*

(2.) *The* PILOT is the officer who ſuperintends the navigation, either upon the ſea coaſt or on the main ocean. It is, however, more particularly applied by our mariners to the perſon charged with the direction of a ſhip's courſe on or near the ſea coaſt, and into the roads, bays, rivers, havens, &c. within his reſpective diſtrict. Pilots of ſhips, taking upon them to conduct any ſhip from Dover, &c. to any place up the Thames, are to be firſt examined and approved by the maſter and wardens of the ſociety of Trinity Houſe, &c. or ſhall forfeit 10l. for the firſt offence, 20l. for the ſecond, and 40l. for every other offence; one moiety to the informer, the other to the maſter and wardens; but any maſter or mate of a ſhip may pilot his own veſſel up the river, and if any ſhip be loſt through the negligence of any pilot, he ſhall be for ever after diſabled to act as a pilot. 3 Geo. I. c. 13. The lord warden of the cinque ports may make rules for the government of pilots, and order a ſufficient number to ply at ſea to conduct ſhips up to the Thames. 7 Geo. I. c. 21. No perſon ſhall act as a pilot on the Thames, &c. (except in collier ſhips) without a licence from the maſter and wardens of Trinity Houſe at Deptford, on pain of forfeiting 20l. And pilots are to be ſubject to the government of that corporation; and pay ancient dues, not exceeding 1s. in the pound, out of wages, for the uſe of the poor thereof, Stat. 5 Geo. II. c. 20. By the ci-devant laws of France, no perſon could be received as pilot till he had made ſeveral voyages, and paſſed a ſtrict examination, and

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d after that, on his return in long voyages, he is obliged to lodge a copy of his journal in the miralty; and if a pilot occasioned the loss of a p, he had to pay 100 livres fine, and to be for er deprived of the exercise of pilotage; and if did it designedly, be punished with death. *Mercat.* 70. 71. The laws of OLERON or- m, That if any pilot designedly misguide a p, that it may be cast away, he shall be put to igorous death, and hung in chains: and if the d of a place, where a ship be thus lost, abet ch villains, to have a share of the wreck, he all be apprehended, and all his goods forfeited r the satisfaction of the persons suffering; and person shall be fastened to a stake in the midst his own mansion, which, being fired on the ar corners, shall be burned to the ground, and with it. *Leg. Ol.* c. 25. And if the fault of a ot be so notorious, that the ship's crew see an parent wreck, they may lead him to the hatch- , and strike off his head; but the common law nies this hasty execution: an ignorant pilot is tenced to pass thrice under the ship's keel by e laws of Denmark. *Lex Mercat.* 70. The re- lations with regard to pilots in the royal navy e as follow: "The purser of the ship is always have a set of bedding provided on board for e pilots; and the captain is to order the boat- ain to supply them with hammocks, and a con- nient place to lie in, near their duty, and apart om the common men; which bedding and ham- ocks are to be returned when the pilots leave e ship. A pilot, when conducting one of his esty's ships in pilot water, shall have the sole harge and command of the ship, and may give ders for steering, setting, trimming, or furling e sails; tacking the ship; or whatever concerns e navigation: and the captain is to take care pt all the officers and crew obey his orders, at the captain is diligently to observe the con- ct of the pilot; and if he judges him to behave ital as to bring the ship into danger, he may re- ove him from the command and charge of the p, and take such methods for her preservation shall be judged necessary; remarking upon the g-book, the exact hour and time when the pilot as removed from his office, and assigning the asons for it. Captains of the king's ships, em- loying pilots, whether British or foreigners, are dered to be punctual in their certificates, vou- hers and payments, as soon as the service is o- er." See *Regulations and Instructions of the Sea- rvice*, &c.

* *To* PILOT. *v. a.* [from the noun.] To steer; direct in the course.

* PILOTAGE. *n. s.* [*pilotage*, French, from ilot.] 1. Pilot's skill; knowledge of coasts.— We must for ever abandon the Indies, and lose all ur knowledge and *pilotage* of that part of the orld. *Raleigh.* 2. A pilot's hire. *Ainsworth.*

PILOT FISH, or *Gasterosteus Ductor*, in ichthy- logy, is a species of the gasterosteus, and is found n the Mediterranean and in the Atlantic ocean, hiefly towards the equator. (See *Plate* CCLXXIV; nd GASTEROSTEUS.) Catesby, who gives a fi- ure of it in its natural size, together with a short escription, calls it *perca marina sectoria*, or rud- der-fish. One of them, which Gronovius de- scribes, was about 4 inches long, and its greatest breadth little more than an inch: the head is a- bout a third of the body, and covered, excepting the space between the snout and the eye, with scales scarcely perceptible, and covering one ano- ther like tiles; the iris of the eye is a silver grey; the jaws are of equal size, and furnished as well as the palate with small teeth disposed in groups; there is also a longitudinal row of teeth on the tongue. The trunk of the pilot fish is oblong, a little rounded, but it appears quadrangular to- wards the tail, because at this place the lines are thicker, and form a kind of membranaceous pro- jection. The back fin is long, and furnished with 7 radii; on the fore part of this fin are three moveable prickles very short; the fins on the breast have each of them 20 radii, forked at their extremity; the abdominal fins have six; that of the anus has 17 branches, of which the first is longest; this fin is preceded by a small moveable prickle; that of the tail is thick, large, and fork- ed. The pilot fish is of a brownish colour, chang- ing into gold; a transversal black belt crosses the head; the 2d passes over the body at the place of the breast; a 3d near the moveable prickles of the back; 3 others near the region of the anus; and a 7th at the tail. Seafaring people observe, that this fish frequently accompanies their vessels; and as they see it generally towards the fore part of the ship, they imagined that it was guiding and tracing out the course of the vessel, and hence it received the name of *pilot-fish*. Osbec tells us, that they are shaped like those mackerels which have a transversal line across the body. "Sailors (conti- nues he) give them the name of *pilots*, because they closely follow the dog-fish, swimming in great shoals round it on all sides. It is thought that they point out some prey to the dog-fish. (See *Mem. of the Swed. Acad. for* 1755, vol. xvi. p. 71.) It like- wise follows the shark, apparently for the remains of its prey. Barbut informs us, that these fishes propagate their species like the shark. He adds, that in the gulph of Guinea they follow ships for the sake of the offals, and hence the Dutch give them the name of *dung-fish*. Though so small, they can keep pace with ships in their swiftest course.

PILOUTAI, a town of Chinese Tartary, near the Hoang-ho, 308 miles W. of Pekin. Lon. 126. 39. E. Ferro. Lat. 40. 38. N.

PILPAY, a celebrated Bramin, who flourished about A. A. C. 250. He wrote a book of fables, which has been translated into most of the lan- guages of Europe.

(1.) PILSEN, a circle or province of Bohemia, abounding in sheep, and famous for excellent cheese.

(2.) PILSEN, a handsome and strong town of Bohemia, capital of the above circle. In 1421 and 1453, it was besieged by the Hussites, but without success. In 1553, it was taken by George Podiebrad; in 1618 by Count Mansfeld, and in 1621 by Count Tilly. Pilsen is seated at the con- flux of the Miza, Radbuza, and Watto; 44 miles SW. of Prague, and 80 S. of Dresden. Lon. 7. 30. E. Lat. 49. 39. N.

(3.)

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(3.) PILSEN, a town of Hungary, on the Ipol; 10 miles NE. of Gran, and 25 N. of Buda.

* PILSER. *n. ſ.* The moth or fly that runs into a flame. *Ainſ.*

PILSNA, } or PILZOW, a town of Little Po-
PILSNO, } land, in the palatinate of Sandomirz, ſeated on the Wiſtake; 50 miles E. of Cracow, and 56 SW. of Sandomirz. Lon. 21. 10. E. Lat. 50. 0. N.

PILSTING, a town of Lower Bavaria, 8 miles ENE. of Dingelfingen, and 2 N. of Landau.

(1.) PILTEN, a diviſion of Courland, which lies in Courland Proper, and derives its name from the ancient caſtle or palace of Pilten, built by Valdemar II. king of Denmark, about 1220, when he founded a biſhop's ſee in this country for the converſion of its Pagan inhabitants. This diſtrict afterwards ſucceſſively belonged to the Germans, the king of Denmark, the duke of Courland, and to Poland: and by virtue of the inſtrument of regency drawn up for it in 1717, the government was lodged in 7 Polith ſenators or counſellors, from whom an appeal lies to the king. The biſhop of Samogitia alſo ſtyles himſelf biſhop of Pilten. The moſt remarkable part of this diſtrict is the promontory of Domeſneſs, which projects northward into the gulf of Livonia. From this cape a ſand bank runs 4 German miles farther into the ſea, half of which lies under water, and cannot be diſcerned. To the eaſt of this promontory is an unfathomable abyſs, which is never obſerved to be agitated. For the ſafety of veſſels bound to Livonia, two ſquare beacons have been erected on the coaſt, near Domeſneſs church, oppoſite to the ſand bank, and facing each other. One of theſe is 12 fathoms high, and the other 8; and a large fire is kept burning on them from the firſt of Auguſt to the firſt of January. When the mariners ſee theſe fires appear as one in a direct line, they may conclude that they are clear of the extremity of the ſand bank, and conſequently out of danger; but if they ſee both beacons, they are in danger of running upon it. The diſtrict of Pilten contains 7 pariſhes, and ſeveral villages. The inhabitants are chiefly Lutherans.

(2.) PILTEN, or PYLTYN, the capital of the above diſtrict, ſeated on the Windaw, between Golding and Fort Windaw. Lon. 22. 10. E. Lat. 57. 15. N.

(3.) PILTEN, a lake of Chineſe Tartary, 23 miles in circumference; 25 miles SW. of Nimgoura.

PILULÆ, pills. See PHARMACY, *Index*.

PILULARIA, in botany, PEPPER GRASS, a genus of plants in the claſs Cryptogamia, and order of Filices; ranking in the natural method in the 55th order *Filices*.

PILUM, a miſſive weapon uſed by the Roman ſoldiers, and in a charge darted upon the enemy. Its point, we are told by Polybius, was ſo long and ſmall, that after the firſt diſcharge it was generally ſo bent as to be rendered uſeleſs. The legionary ſoldiers made uſe of the pilum, and each man carried two. The pilum underwent many alterations and improvements, inſomuch that it is impoſſible with any preciſion to deſcribe it. Julius Scaliger laboured much to give an accurate account of it. It appears to have been ſometimes round, but moſt commonly ſquare, to have been two cubits long in the ſtaff, and to have had an iron point of the ſame length hooked and jagged at the end. Marius made a material improvement in it; for during the Cimbrian war, he contrived it, that when it ſtuck in the enemy's ſhield, it ſhould bend down in an angle in the part where the wood was connected with the iron, and thus become uſeleſs to the perſon who retained it.

PILUMNUS, in Roman mythology, the god of the bakers. See PICUMNUS. Turnus boaſted of being deſcended from him. *Virg. Æn.* ix. 6.

PILZISCHE, a town of Upper Saxony, in Lusatia, 10 miles SE. of Schwarzenberg.

PILZOW. See PILSNA.

PIMBLE MEER, a large lake of N. Wales, in Merionethſhire, S. of Bala.

PIMBO, a town of France, in the dep. of the Landes; 5 miles S. of St Sever.

PIM-CHAN, a town of China, in Petcheli.

PIM COU, a town of China, in Petcheli, of the 3d rank, 48 miles ENE. of Pekin.

PIMENI, a town of Naples in Calabria Ultra, 17 miles NE. of Nicotera.

(1.) * PIMENTA. *n. ſ.* [*pimenta*, French] A kind of ſpice.—*Pimenta*, from its round ſhape and the place whence it is brought, has been called Jamaica pepper, and from its mixt flavour of the ſeveral aromaticks, it has obtained the name of all-ſpice: it is a fruit gathered before it is ripe, and reſembles cloves more than any other ſpice. *Hill's Mat. Med.*

(2.) PIMENTA, or } or, as Mr Edward writes,
PIMENTO, } PIEMENTO, in botany, the JAMAICA PEPPER, or *Allſpice*, a ſpecies of the myrtus. See MYRTUS, N° II. § 2. "The pimento trees grow ſpontaneouſly, and in great abundance, in many parts of Jamaica, but more particularly on hilly ſituations near the ſea on the N. ſide of that iſland; where they fill the air with fragrance, and form the moſt delicious proſpect that can poſſibly be imagined. This tree is entirely a child of nature, and ſeems to mock all the labours of man in his endeavours to extend or improve its growth: not one attempt in 50 to propagate the young plants, or to raiſe them from the ſeeds, in parts of the country where it is not found growing ſpontaneouſly, having ſucceeded. The uſual method of forming a new pimento plantation (in Jamaica it is called a *walk*) is to appropriate a piece of woodland, in the neighbourhood of a plantation already exiſting, or in a country where the ſcattered trees are found in a native ſtate, the woods of which being fallen, the trees are ſuffered to remain on the ground till they become rotten and periſh. Within a year after the firſt ſeaſon, abundance of young pimento plants will be found growing vigorouſly in all parts of the land, being without doubt produced from ripe berries ſcattered there by the birds, while the fallen trees, &c. afford them both ſhelter and ſhade. At the end of two years it will be proper to give the land a thorough cleaning, leaving ſuch only of the pimento trees as have a good appearance, which will then form ſuch groves as thoſe I have deſcribed, and, except perhaps

haps for the firſt 4 or 5 years, require very lit- attention afterwards. Soon after the trees are bloſſom, the berries become fit for gathering; fruit not being ſuffered to ripen on the tree, he pulp in that ſtate, being moiſt and glutiſ, is difficult to cure, and when dry becomes k and taſteleſs. It is impoſſible, however, to ent ſome of the ripe berries from mixing with reſt; but if the proportion of them be great, price of the commodity is conſiderably injur- It is gathered by the hand; one labourer on tree, employed in gathering the ſmall branch- will give employment to three below (who generally women and children) in picking the ies; and an induſtrious picker will fill a bag o lbs. in the day. The returns from a pi- to walk in a favourable ſeaſon are prodigious. gle tree has been known to yield 150 lbs. of raw fruit, or one cwt. of the dried ſpice; being commonly a loſs in weight of one 3d ring; but this, like many other of the minor uctions, is exceedingly uncertain, and per- a very plenteous crop occurs but once in years."

MERIA, a diſtrict of N. America, the moſt ern province of New Navarre.

M-HIAM, a town of China, in Petcheli, of d rank; 20 miles ESE. of Chunte.

PIMP. *n. ſ.* [*pinge*, Fr. *Skinner.*] One who ides gratifications for the luſt of others; a ger; a pander.—

I'm courted by all
Principal *pimp* to the mighty king Harry.
Addiſon.

Lords keep a *pimp* to bring a wench. *Swift.*

To PIMP. *v. n.* [from the noun.] To pro- gratifications for the luſt of others; to pan- to procure.—

But he's poſſeſt with a thouſand imps,
A work whoſe ends his madneſs *pimps*. *Swift.*

PIMPERNEL. *n. ſ.* [*pimpernella*, Lat. *nelle*, French.] A plant. *Miller.*

PIMPERNEL. See ANAGALLIS.

PIMPERNEL, ROUND-LEAVED. See SAMO-

PIMPERNEL, WATER. See VERONICA.

PIMPERNEL, YELLOW. See LYSIMACHIA.

MPILLO, a ſpecies of CACTUS.

MPINELLA, BURNET SAXIFRAGE; a genus digynia order, belonging to the pentandria of plants; and in the natural method, rank- nder the 45th order, *Umbellatæ*. There are ies; the moſt remarkable are,

PIMPINELLA ANISUM, the common aniſe, annual plant, which grows naturally in E- ; but is cultivated in Malta and Spain, from e the ſeeds are annually imported into Bri- The lower leaves of this plant are divided hree lobes, which are deeply cut on their ; the ſtalk riſes a foot and a half high, di- into ſeveral ſlender branches, garniſhed narrow leaves, cut into three or four narrow nts, terminated by pretty large looſe um- compoſed of ſmaller umbels or rays, which on pretty long footſtalks. The flowers are and of a yelowiſh white; the ſeeds are ob- nd ſwelling.—The former ſpecies requires no culture; the latter is too tender to be culti- vated for profit in this country. However, the ſeeds will come up if ſown in the beginning of A- pril upon a warm border. When they come up, they ſhould be thinned, and kept clear of weeds, which is all the culture they require.

2. PIMPINELLA MAJOR, or greater burnet ſaxi- frage, growing naturally in chalky woods, and on the ſides of the banks near hedges, in ſeveral parts of England. The lower leaves of this ſort are winged; the lobes are deeply ſawed on their edges, and ſit cloſe to the midrib, of a dark green. The ſtalks are more than a foot high, dividing in- to four or five branches. The lower part of the ſtalk is garniſhed with winged leaves, ſhaped like thoſe at the bottom, but ſmaller: thoſe upon the branches are ſhort and trifid; the branches are terminated by ſmall umbels of white flowers, which are compoſed of ſmaller umbels or rays. The flowers have 5 heart-ſhaped petals, which turn inward, and are ſucceeded by two narrow, oblong, channelled ſeeds. Both theſe ſpecies are uſed in medicine. The roots of pimpinella have a grateful, warm, very pungent taſte, which is entirely extracted by rectified ſpirit: in diſtilla- tion the menſtruum ariſes, leaving all that it had taken up from the root united into a pungent a- romatic reſin. This root promiſes, from its ſenſi- ble qualities, to be a medicine of conſiderable utili- ty, though little regarded in common practice: the only officinal compoſition in which it is an ingredient, is the *pulvis ari compoſitus*. Stahl, Hoffman, and other German phyſicians, are extremely fond of it; and recommend it as an ex- cellent ſtomachic, reſolvent, detergent, diuretic, diaphoretic, and alexipharmac. They often gave it with ſucceſs, in ſcorbutic and cutaneous diſor- ders, foulneſs of the blood and juices, tumors and obſtructions of the glands, and diſeaſes pro- ceeding from a deficiency of the fluid ſecretions in general. Boerhaave directs the uſe of it in aſthmatic and hydropic caſes, where the ſtrongeſt reſolvents are indicated: the form he prefers is a watery infuſion; but the ſpirituous tincture poſ- ſeſſes the virtues of the root in much greater per- fection. Aniſeeds have an aromatic ſmell, and a pleaſant warm taſte, accompanied with a degree of ſweetneſs. Water extracts very little of their flavour; rectified ſpirit the whole. The ſeeds are in the number of the four greater hot ſeeds: their principal uſe is in cold flatulent diſorders, where tenacious phlegm abounds, and in the gripes to which young children are ſubject. Fre- deric Hoffman ſtrongly recommends them in weakneſs of the ſtomach, diarrhœas, and for ſtrengthening the tone of the viſcera in general: and thinks they well deſerve the appellation given them by Helmont, *inteſtinorum ſolamen*. The ſmaller kind of aniſeeds brought from Spain are preferred.

* PIMPING. *adj.* [*pimple menſch*, a weak man, Dutch.] Little; petty: as, a *pimping* thing. *Skinner.*

PIMPLA, a mountain of Macedonia, near O- lympus, ſacred to the Muſes, hence called PIM- PLEÆ.

(1.) * PIMPLE. *n. ſ.* [*pompette*, Fr.] A ſmall red

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red puſtule.—If Roſalinda is unfortunate in her mole, Nigranilla is as unhappy in a *pimple*. *Spectator*.—

If e'er thy gnome could ſpill a grace,
Or raiſe a *pimple* on a beauteous face. *Pope*.

—The riſing of a *pimple* in her face will make her keep her room two or three days. *Law*.

(2.) PIMPLES, CURE FOR. By mixing equal quantities of the juice of houſe-leek, *ſedum minus*, paſſed through paper, and of ſpirit of wine rectified by itſelf, a white coagulum of a very volatile nature is formed, which Dr Bughart commends for curing pimples of the face; and ſays, that the thin liquor ſeparated from it with ſugarcandy is an excellent remedy for thick viſcid phlegm in the breaſt.

PIMPLEÆ, and } names given to the Muſes,
PIMPLEADES, } from Mount PIMPLA. *Hor. i. Od.* 1. 26. *Strab.* 10.

* PIMPLED. *adj.* [from *pimple*.] Having red puſtules; full of pimples: as, his face is *pimpled*.

PIMPRANA, an ancient town of India, on the Indus. *Arrian*.

PIMSANIM, a town of Chineſe Tartary; 35 miles SW. of Ning-Yuen.

(1.) * PIN. *n. ſ.* [*eſpingle*, Fr. *ſpina*, *ſpinula*, Lat. *ſpilla*, Italian; rather from *pennon*, low Latin. *Iſidore*.] 1. A ſhort wire with a ſharp point, and round head, uſed by women to faſten their cloaths.—I'll make thee eat iron like an oſtridge, and ſwallow my ſword like a great *pin*, ere thou and I part. *Shak*.—

Whatever ſpirit, careleſs of his charge,
His poſt neglects, or leaves the fair at large,
Shall feel ſharp vengeance ſoon o'ertake his ſins.
Be ſtopt in vials, or transfixt with *pins*. *Pope*.

2. Any thing inconſiderable, or of little value.—

Soon after comes the cruel Saracen,
And ſternly looks at him, who not a *pin*
Does care for look of living creature's eye.
Spenſer.

His fetch is to flatter to get what he can;
His purpoſe once gotten, a *pin* for thee then.
Tuſſer.

Tut, a *pin*; this ſhall be anſwer'd. *Shak*.

—'Tis not a *pin* matter whether the fact be true or falſe. *L'Eſtrange*. 3. Any thing driven to hold things together; a peg; a bolt.—

With *pins* of adamant
And chains, they made all faſt. *Milton*.

4. Any ſlender thing fixed in another body.—

Bedlam beggars, with roaring voices,
Stick in their numb'd and mortified bare arms,
pins, wooden pricks, nails, ſprigs of roſemary.
Shak.

—Theſe bullets ſhall reſt on the *pins*; and there muſt be other *pins* to keep them. *Wilkins*. 5. That which locks the wheel to the axle; a linch pin. 6. The central part.—Romeo is dead, the very *pin* of his heart cleft with the blind hautboy's butſhaft. *Sh k*. 7. The pegs by which muſicians intend or relax their ſtrings. 8. A note; a ſtrain. In low language.—A fir tree, in a vain ſpiteful humour, was mightily upon the *pin* of commending itſelf. *L'Eſtrange*.—As the woman was upon the peeviſh *pin*, a poor body comes, while the froward fit was upon her, to beg. *L'Eſtrange*. 9. A horny induration of the membranes of the eye. *Hanmer*. *Skinner* ſeems likewiſe to ſay the ſame. I ſhould rather think it an inflammation, which cauſes a pain like that of a pointed body piercing the eye.—

Blind with the *pin* and web. *Shak*.

10. A cylindrical roller made of wood.—

They drew his brownbread face on pretty gins,
And made him ſtalk upon two rolling *pins*.
Cotton.

11. A noxious humour in a hawk's foot. *Ayl*.

(2.) PINS, in commerce, are made of braſs wire. In 1543, by ſtatute 34 and 35 of Henry VIII. cap. vi. it was enacted, "That no perſon ſhall put to ſale any pinnes but only ſuch as ſhall be double headed, and have the heads ſoldered faſt to the ſhank of the pins, well ſmoothed, the ſhank well ſhapen, the points well and round filed, cut and ſharpened." From the above extract it ſhould appear that the art of pin-making was but of late invention, probably introduced from France; and that our manufactories ſince that period have wonderfully improved. Though pins are apparently ſimple, their manufacture is curious and complex. The following account of it is given in Ellis's *Pagna* of London. "When the braſs wire, of which the pins are formed, is firſt received at the manufactory, it is generally too thick for the purpoſe of being cut into pins. The firſt operation therefore is that of winding it off from one reel to another with great velocity, and cauſing it to paſs between the two, through a circle in a piece of iron of ſmaller diameter: the wire being thus reduced to its proper dimenſions, is ſtraitened by drawing it between iron pins, fixed in a board in a zig-zag manner, but ſo as to leave a ſtraight line between them: afterwards it is cut into lengths of 3 or 4 yds, and then into ſmaller ones, every length being ſufficient to make ſix pins. One end of theſe is ground to a point, which was performed when I viewed the manufactory by men who ſat each with two ſmall grinding ſtones before him, turned by a wheel. Taking up a handful, he applies the ends to the coarſeſt of the two ſtones, being careful at the ſame time to keep each piece moving round between his fingers, that the points may not become flat: he then gives them a ſmoother and ſharper point, by applying them to the other ſtone, and by that means a boy of 12 or 14 years of age is enabled to point above 16,000 pins in an hour. When the wire is thus pointed, a pin is taken off from each end, and this is repeated till it is cut into ſix pieces. The next operation is that of forming the heads, or, as they term it, *head-ſpinning*; which is done by means of a ſpinning-wheel, one piece of wire being thus with aſtoniſhing rapidity wound round another, and the interior one being drawn out leaves a hollow tube between the circumvolutions: it is then cut with ſheers; every two circumvolutions or turns of the wire forming one head: the pins are ſoftened by throwing them into iron pans, and placing them in a furnace till they are red-hot. As ſoon as they are cold, they are diſtributed to children, who ſit with anvils and hammers before them, which they work with their feet, by means of a lathe, and taking up one of the lengths, they

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hrust the blunt end into a quantity of the heads which lie before them, and catching one at the extremity, they apply them immediately to the anvil and hammer, and by a motion or two of the ist, the point and the head are fixed together in inch less time than it can be described, and with dexterity only to be acquired by practice; the ectator being in continual apprehension for the ifety of their fingers ends. The pin is now finished as to its form, but still it is merely brass; is therefore thrown into a copper, containing a lution of tin and the leys of wine. Here it remains for some time; and when taken out assumes white though dull appearance: in order therefore give it a polish, it is put into a tub containing quantity of bran, which is set in motion by rning a shaft that runs through its centre, and us by means of friction it becomes perfectly right. The pin being complete, nothing remains t to separate it from the bran, which is performed by a mode exactly similar to the winnowing corn; the bran flying off and leaving the pin hind fit for immediate sale. See NEEDLE, 2.

* *To* PIN. *v. a.* [from the noun. 1. To fasten ith pins.—Tis only a paper *pinn'd* upon the reast. *Pope.*—

Not Cynthia when her manteau's *pinn'd* awry,
E'er felt such rage. *Pope.*

To fasten; to make fast.—

Our gates,
Which yet seem shut, we have but *pinn'd* with rushes. *Shak. Macbeth.*

To join; to fix; to fasten.—She lifted the princess from the earth, and so locks her in embracing, as if she would *pin* her to her heart. *Sid.*—If removing my consideration from the impression of the cubes to the cubes themselves, I will *pin* this one notion upon every one of them. *Digby of Bodies.*—

I've learn'd how far I'm to believe
Your *pinning* oaths upon your sleeve. *Hudibras.*

They help to cozen themselves, by chusing to put their faith on such expositors. *Locke.*—It cannot be imagined, that so able a man should take much pains to *pin* so closely on his friend a way which, if he himself thought incredible, he would not but also think ridiculous. *Locke.* 4. [*Pindan*, Sax.] To shut up; to inclose; to confine; as, in pinfold. This written like to *pen.*—All this be willingly granted by us, which are accused to *pin* the word of God in so narrow room, let the cause of the accused be referred to the accuser's conscience. *Hooker.*

PINACIA, among the Athenians, were tablets of brass inscribed with the names of all those citizens in each tribe who were duly qualified and willing to be judges of the court of Areopagus. These tablets were cast into a vessel provided for the purpose, and the same number of beans, 100 being white, and all the rest black, were thrown into another. Then the names of the candidates and the beans were drawn out one by one, and they whose names were drawn out together with the white beans were elected judges or senators. In Solon's time there were only four tribes, each of which chose 100 senators; but the number of tribes afterwards increasing, the number of senators or judges increased to so many hundreds more.

PINÆUS. See PINEAU.

PINAGRA, a town of Indostan, 14 miles WSW. of Darampoory, and 75 E. of Seringapatam.

PINANG, the Chinese name of the *Areca Catechu*, Lin. See ARECA, N° 1.

PINARDO, a town of the Italian republic, in the dep. of the Olona, district, and late principality of Pavia, on the banks of the Po, in a fertile country.

PINARE, in ancient geography; 1. an island in the Ægean Sea: 2. a town of Syria, S. of mount Amanus: (*Plin.* [illegible]. 25.) 3. a town of Lycia. *Strab.* xiv.

PINARUS, a river which runs between Syria and Cilicia, and falls into the Sea, near Illus; now called DELIFOU. (*Dionys.*)

(1.) PINAS, a town of Spain, in Granada.

(2.) PINAS ISLAND, an island in the Gulf of Honduras, lying off Trivigillo Bay.

(3.) PINAS POINT, the E. point of Panama Bay. Lon. 80. 30. W. Lat. 6. 15. N.

(4.) PINAS PORT, a sea port on the SW. coast of the isthmus of DARIEN, near Pinas Point, 36 miles N. by W. of Port Quemada. The coast abounds with *pines*, whence the name.

PINASTER. See PINUS.

* PINCASE. *n. s.* [*pin* and *case.*] A pincushion. *Ainsworth.*

* PINCERS. *n. s.* [*pincette*, French.] 1. An instrument by which nails are drawn, or any thing is gripped, which requires to be held hard.—

Amendment ready still at hand did wait,
To pluck it out with *pincers* fiery hot,
That soon in him was left no one corrupt jot.
Spenser.

2. The claw of an animal.—Every ant brings a small particle of that earth in her *pincers*, and lays it by the hole. *Guardian.*

* PINCH. *n. s.* [*pinçon*, Fr. from the verb.] 1. A painful squeeze with the fingers.

A *pinch* must for the mortal sin compound.
Dryden

2. A gripe; a pain given.—

There cannot be a *pinch* in death
More sharp than this is. *Shak. Cymbeline.*

3. Oppression; distress inflicted.—

Return to her! no, rather I chuse
To be a comrade with the wolf and owl;
Necessity's sharp *pinch.* *Shak. King Lear.*

—A farmer was put to such a *pinch* in a hard winter, that he was forced to feed his family upon the main stock. *L'Estr.* 4. Difficulty; time of distress.—A good sure friend is a better help at a *pinch*, than all the stratagems of a man's own wit. *Bacon.*—The devil helps his servants for a season; but when they come once to a *pinch*, he leaves 'em in the lurch. *L'Estrange.*—The commentators never fail him at a *pinch. Dryden.*—

They at a *pinch* can bribe a vote. *Swift.*

5. In all the senses except the first, it is used only in low language.

(1.) * *To* PINCH. *v. a.* [*pincer*, French.] 1. To squeeze between the fingers, or with the teeth.—

When the doctor spies his vantage ripe,
To *pinch* her by the hand,
The maid hath given consent. *Shak.*

2. To hold hard with an inſtrument. 3. To ſqueeze the fleſh till it is pained or livid.—

Thou ſhalt be *pinch'd*
As thick as honey-combs. *Shak. Tempeſt.*

—He would *pinch* the children in the dark ſo hard, that he left the print in black and blue. *Arbuthnot.* 4. To preſs between hard bodies. 5. To gall; to fret.—As they *pinch* one another by the diſpoſition, he cries out, no more. *Shak. Ant. and Cleop.* 6. To gripe; to oppreſs; to ſtraiten.—Want of room upon the earth's *pinching* a whole nation, begets the remedileſs war. *Raleigh's Eſſays.*—

She *pinch'd* her belly with her daughter's too. *Dryden.*

—Nic. Frog would *pinch* his belly to ſave his pocket. *Arbuthnot.* 7. To diſtreſs; to pain.—

Avoid the *pinching* cold and ſcorching heat. *Milton.*

The ſharp year *pinches*. *Thomſon's Autumn.* 8. To preſs; to drive to difficulties.—The beaver, when he finds himſelf hard *pinch'd*, bites 'em off. *L'Eſtr.*—The reſpondent is *pinched* with a ſtrong objection, and is at a loſs for an anſwer. *Watts.* 9. To try thoroughly; to force out what is contained within.—This is the way to *pinch* the queſtion. *Collier.*

(2.) * *To* PINCH. *v. n.* 1. To act with force, ſo as to be felt; to bear hard upon; to be puzzling.—A difficulty *pincheth*. *Glanville.*—

But thou
See'ſt where the reaſons *pinch*, and where they fail. *Dryd.*

2. To ſpare; to be frugal.—There is that waxeth rich by his warineſs and *pinching*. *Eccluſ.* xi. 18.—

The poor that ſcarce have wherewithal to eat,
Will *pinch* and make the ſinging boy a treat. *Dryden.*

The bounteous player outgave the *pinching* lord. *Dryden.*

PINCHBECK, *n. ſ.* An artificial metal, compounded of COPPER, and ZINC. The proportions, according to Dr Thomſon, are theſe: "When the alloy contains 3 parts of zinc and 4 of copper, it aſſumes a colour nearly the ſame with gold, but it is not ſo malleable as braſs. It is then called *pinchbeck, prince's metal*, or *Prince Rupert's metal*."

* PINCHFIST. PINCHPENNY. *n. ſ.* [*pinch, fiſt*, and *penny*.] A miſer. *Ainſ.*

PINCHINA. See PICHINCHA.

* PINCHPENNY. See PINCHFIST.

PINCHUGA, a town of Ruſſia, in Toboliſk.

PINCHUN, a town of China, in Chan-ſi.

(1.) PINCKNEY, an iſland near the coaſt of S. Carolina.

(2.) PINCKNEY, a diſtrict of S. Carolina, lying W. of Camden and Cheraw diſtricts. It is divided into four counties, named York, Cheſter, Union, and Spartanburgh. It contained, in 1795, 25,870 citizens, who ſend to the State legiſlature, 3 ſenators and 9 repreſentatives; and in conjunction with Waſhington, ſend one member to Congreſs.

PINCKNEYVILLE, a poſt town of S. Carolina, in Union county, capital of the above diſtrict. It is ſeated on Broad River, at the mouth of the Pacolet, 75 miles NW. of Columbia.

PINCO, a town of Peru, in Atun-xauxa.

PINCUM, in ancient geography, a town of Mœſia Superior, now called GRADISCA.

* PINCUSHION. *n. ſ.* [*pin* and *cuſhion*.] A ſmall bag ſtuffed with bran or wool on which pins are ſtuck.—She would ruin me in ſilks, were not the quantity, that goes to a large *pincuſhion*, ſufficient to make her a gown and petticoat. *Guardian.*—Thou art a retailer of phraſes, and doſt deal in remnants of remnants, like a maker of *pincuſhions*. *Congreve.*

PINCZESTI, a town of European Turkey, in Moldavia; 28 miles WSW. of Jaſſi.

PINDAR, the prince of lyric poets, was born at Thebes, about 520 years B. C. He received his firſt muſical inſtructions from his father, who was a flute-player by profeſſion; after which, according to Suidas, he was placed under Myrtis, a lady of diſtinguiſhed abilities in lyric poetry. During this period he became acquainted with the poeteſs CORINNA, who was likewiſe a ſtudent under MYRTIS, and Pauſanias ſays, was one of the moſt beautiful women of her time. Plutarch tells us, that Pindar profited from the leſſons which Corinna, more advanced in her ſtudies, gave him at this ſchool. The firſt poetical effuſions of a genius, ſo full of fire and imagination as that of Pindar, would be wild and luxuriant, and Lucian has preſerved ſix verſes, ſaid to have been the exordium of his firſt eſſay; in which he crowded almoſt all the ſubjects for ſong, which ancient hiſtory and mythology then furniſhed. Upon communicating this attempt to Corinna, ſhe told him ſmiling, that he ſhould ſow with the *hand*, and not empty his *whole ſack* at once. Pindar, however, ſoon quitted the leading ſtrings of his poetical nurſes, and became the diſciple of Simonides, now in extreme old age: after which he ſoon ſurpaſſed all his maſters, and acquired great reputation over all Greece: but, was more honoured in his own country than elſewhere; for at Thebes he was often ſaid to be vanquiſhed in the muſical and poetical conteſts, by candidates of inferior merit. Indeed at that period the fame in theſe accompliſhments was to be acquired, otherwiſe than by entering theſe liſts. Accordingly we find, that both Myrtis and Corinna publicly diſputed the prize with him at Thebes. He obtained a victory over Myrtis, but was vanquiſhed five different times by Corinna. But this, ſays Pauſanias, was becauſe the judges were more ſenſible to the charms of beauty than to thoſe of muſic and poetry. When he quitted that city, as his judgment was matured, he amended the errors for which he had been chaſtiſed, and ſuddenly became the wonder and delight of all Greece. Every hero, prince, and potentate, deſirous of laſting fame, courted the muſe of Pindar. He ſeems to have been often preſent at the feſtivals, of the Olympian, Pythian, Nemean, and Iſthmian games, as may be inferred from ſeveral expreſſions in the odes which he compoſed for the victors in them all. Thoſe at Olympia, who were ambitious of having their atchievements celebrated by Pindar, applied to him for an ode, which was firſt ſung in the Prytaneum or town-hall of Olympia, where there was a banqueting room, ſet apart for the entertainment of the conquerors. Here the ode was rehearſed by a cho-

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us, accompanied by inſtruments. It was afterwards performed in the ſame manner at the triumphal entry of the victor into his own country, in proceſſions or at the ſacrifices that were made with great pomp and ſolemnity on the occaſion. There is no great poet in antiquity whoſe moral character has been leſs cenſured than that of Pindar. Plutarch has preſerved a ſingle verſe of his *Epicedium* or *Dirge* that was ſung at his funeral; which, ſhort and ſimple, as it is, implies, great praiſe: *This man was pleaſing to ſtrangers, and dear to his fellow-citizens.* His works abound with precepts of the pureſt morality: and it does not appear that he ever traduced even his enemies, comforting himſelf, for their malignity, by a maxim which is inſerted in his firſt *Pythic*, and which afterwards became proverbial, *That it is better to be envied than pitied.* Pauſanias ſays, Pindar's character as a poet was conſecrated by the god of verſe himſelf, who, by an expreſs oracle, ordered the people of Delos to ſet apart for Pindar one half of the firſtfruit offerings brought by the religious to his ſhrine, and to allow him a conſpicuous place in the temple, where in an iron chair he uſed to ſit and ſing his hymns in honour of that god. This chair was remaining in the time of Pauſanias, ſeveral centuries after, and ſhown to him as a relic worthy of the ſanctity and magnificence of that place. Fabricius tells us, that Pindar lived to the age of 90; and according to the chronology of Dr Blair, he died 435 years B. C. aged 86. His fellow citizens erected a monument to him in the hippodrome at Thebes, which was extant in the time of Pauſanias; and his renown was ſo great after his death that his poſterity derived very conſiderable honours and privileges from it. When Alexander the Great attacked the city of Thebes, he gave expreſs orders to his ſoldiers to ſpare the houſe and family of Pindar. The Lacedemonians had done the ſame before this period; for when they ravaged Bœotia and burned the capital, the following words were written upon the door of the poet: *Forbear to burn this houſe, it was the houſe of Pindar* Reſpect for the memory of this great poet continued ſo long, that, even in Plutarch's time, the beſt part of the ſacred victims at the Theoxenian feſtival was appropriated to his deſcendants.

PINDARIC ODE, in poetry, an ode formed in imitation of the manner of Pindar. See POETRY.

PINDASUS, a mountain of Troas.

PINDENISSUS, a town of Cilicia, on the borders of Syria. Cicero, when proconſul of Aſia, took it after a ſiege of 25 days. *Cic. Ep.* ii. 10.

(2.) PINDUS, in ancient geography, an extenſive chain of mountains, in Theſſaly, inhabited by different people of Epirus and Theſſaly, ſeparating Macedonia, Theſſaly, and Epirus; having Paeonia on the N. the Perrhœbi on the W. the Dolopes on the S. (*Strabo.*) It was ſacred to Apollo and the Muſes.

(3.) PINDUS, a Doric city of Ætolia, ſituated on a cognominal river, which falls into the Ceneus. *Strabo.*

PINDUST. *n. ſ.* [*pin* and *duſt.*] Small particles of metal made by pointing pins.—The little parts of *induſt*, when mingled with ſand, cannot, by any mingling, make it lighter. *Digby.*

(1.) * PINE. *n. ſ.* [*pinus*, Latin; *pin*, French.] —The *pine*-tree hath amentaceous flowers or katkins, which are produced at remote diſtances from the fruit, on the ſame tree, the ſeeds are produced in ſquamous cones; to which ſhould be added, that the leaves are longer than thoſe of a fir-tree, and are produced by pairs out of each ſheath. *Miller.*—

You may as well forbid the mountain *pines*
To wag their high tops. *Shak.*

Thus droops this lofty *pine*, and hangs his ſprays. *Shak.*

(2.) PINE, in botany. See PINUS.

(3.) PINE, GROUND. See TEUCRIUM.

(4.) PINE ISLAND, an iſland in the Gulf of Mexico, near the S. coaſt of W. Florida. Lon. 88. 18. W. Lat. 30. 18. N.

(5.) PINE, LOW HEATH, a ſpecies of CORIS.

(6.) PINE, STINKING GROUND. See CAMPHOROSMA.

(1.) * *To* PINE. *v. n.* [*piman*, Saxon; *pijnen*, Dutch.] 1. To languiſh; to wear away with any kind of miſery.—

My hungry eyes, through greedy covetiſe,
With no contentment can themſelves ſuffice;
But having, *pine*, and having not, complain.
Spenſer.

I burn, I *pine*, I periſh,
If I atchieve not this young modeſt girl. *Shak.*

—Since my young lady's going into France, the fool hath much *pined* away. *Shak.*—

See, ſee the *pining* malady of France. *Shak.*

—You ſhall not mourn, but *pine* away for your iniquities. *Ezekiel*, xxiv. 23.—

The wicked with anxiety of mind
Shall *pine* away. *Sandys.*

To me, who with eternal famine *pine*,
Alike is hell, or paradiſe or heav'n. *Milton.*

Welcome the new, whoſe ev'ry day,
Reſtoring what was ſnatch'd away
By *pining* ſickneſs from the fair,
That matchleſs beauty does repair. *Waller.*

The roſes wither, and the lilies *pine*. *Tickel.*

2. To languiſh with deſire.—

We may again
Do faithful homage and receive free honours:
All which we *pine* for. *Shak.*

We ſtood amaz'd to ſee your miſtreſs mourn,
Unknowing that ſhe *pin'd* for your return. *Dryd.*

Your new commander need not *pine* for action. *Philips.*

(2.) * *To* PINE. *v. a.* 1. To wear out; to make to languiſh.—

Part us; I towards the north,
Where ſhivering coid and ſickneſs *pines* the clime. *Shak.*

Look rather on my pale cheek *pin'd*:
There view your beauties. *Carew.*

Beroe *pin'd* with pain,
Her age and anguiſh from theſe rites detain.
Dryden.

Thus tender Spencer liv'd, with mean repaſt
Content, depreſs'd with penury, and *pin'd*
In foreign realm. *Philips.*

2. To grieve for; to bemoan in ſilence.—

Virtue in her ſhape how lovely, ſaw, and *pin'd*
His loſs. *Milton.*

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PINEA, or PIGNE, in commerce, is a term uſed in Peru and Chili, for a kind of light, porous maſſes, or lumps, formed of a mixture of mercury and ſilver duſt from the mines. The ore, or mineral, of ſilver, when dug out of the veins of the mine, is firſt broken and then ground in mills for the purpoſe, driven by water with iron peſtles, each of 200 pounds weight. The mineral, when thus pulverized, is next ſifted, and then worked up with water into a paſte; which, when half dry, is cut into pieces, called *cuerpos*, a foot long, weighing each about 2,500lb. Each piece or cuerpo is again kneaded up with ſea-ſalt, which, diſſolving, incorporates with it. They then add mercury, from 10 to 20lb. for each cuerpo, kneading the paſte afreſh until the mercury be incorporated therewith. This office, which is exceedingly dangerous on account of the noxious qualities of the mercury, is always made the lot of the poor Indians. This amalgamation is continued for 8 or 9 days; and ſome add lime, lead, or tin ore, &c. to forward it; and, in ſome mines, they are obliged to uſe fire. To try if the mixture and amalgamation be ſufficient, they waſh a piece in water; and if the mercury be white, it is a proof that it has had its effect; if black, it muſt be ſtill farther worked. When finiſhed, it is ſent to the lavatories, which are large baſons that empty ſucceſſively into one another. The paſte, &c. being laid in the uppermoſt of theſe, the earth is then waſhed from it into the reſt by a rivulet turned upon it; an Indian, all the while, ſtirring it with his feet, and two other Indians doing the like in the other baſons. When the water runs quite clear out of the baſons, the mercury and ſilver are found at bottom incorporated. This matter they call *pella*, and of this they form the pineas, by expreſſing as much of the mercury as they can; firſt, by putting it in woollen bags, and preſſing and beating it ſtrongly: then, by ſtamping it in a kind of wooden mould, of an octagonal form, at bottom whereof is a braſs plate pierced full of little holes. The matter, when taken out of the mould, is laid on a trivet, under which is a large veſſel full of water; and the whole being covered with an earthen head, a fire is made around. The mercury ſtill remains in the maſs and is thus reduced into fumes, and, at length condenſing, it is precipitated into the water, leaving behind it a maſs of ſilver grains of different figures, which only joining or touching at the extremes, render the matter very porous and light. This, therefore, is the pinea, or pigne, which the workmen endeavour to ſell ſecretly to veſſels trading to the South Sea; and from which thoſe, who have ventured to engage in ſo dangerous a commerce, have made ſuch vaſt gains. Indeed the traders herein muſt be very careful; for the Spaniſh miners are arrant knaves, and to make the pignes weigh the more, they often fill the middle with ſand or iron.

(1.)* PINEAL. *adj.* [*pineale*, Fr.] Reſembling a pine apple. An epithet given by *Des Cartes* from the form, to the gland which he imagined the ſeat of the ſoul.—Courtiers and ſpaniels exactly reſemble one another in the *pineal* gland. *Arbuthnot.*

(2.) PINEAL GLAND, a gland in the 3d ventricle of the brain, ſo called from its reſembling a *pine apple*. See ANATOMY, *Index*.

(1.)* PINE-APPLE. *n. ſ.* The Anana named from its reſemblance to the cone of pines.—The *pine-apple* hath a flower conſiſting of one leaf, divided into three parts, and is funnel-ſhaped: the embryos are produced in the tubercles: theſe become a fleſhy fruit full of juice: the ſeeds, which are lodged in the tubercles, are very ſmall and almoſt kidney-ſhaped. *Miller.*—Try if any words can give the taſte of a *pine-apple*. *Locke.*—If a child were kept where he never ſaw but black and white, he would have no more ideas of ſcarlet, than he that never taſted a *pine-apple*, has of that particular reliſh. *Locke.*

(2.) PINE-APPLE. See BROMELIA.

(3.) PINE-APPLE, WILD. See RENEALMIA.

(1.) PINEAU, Gabriel Du, an eminent French lawyer, born at Angers in 1573. After practiſing ſome time at Angers, he went to Paris, and pleaded with eclat before the parliament and great council. Upon his return to Angers, he became a counſellor in the preſidial court. He was conſulted by all the neighbouring provinces, and had an active hand in all the great affairs of his time. Mary de Medicis made him maſter of requeſts, and, in her diſgrace, wiſhed to ſupport herſelf by his credit and counſels; but Du Pineau, equally dutiful to the monarch and his mother never ceaſed to inculcate ſentiments of peace. In 1630, Lewis XIII. by way of reward, appointed him mayor and captain-general of the city of Angers, a ſituation in which he merited the flattering title of *Father of the people*. He had no reſpect of perſons; for he was equally acceſſible to the poor and the great. This worthy citizen died the 19th Oct. 1644, aged 71. His houſe was a kind of academy, where regular conferences were held and attended by young officers, advocates, and other literary characters. His writings are, 1. Latin notes, in addition to thoſe of Du Moulin, upon the canon law, printed along with the works of that eminent lawyer by the care of Francis Pithou. 2. Commentaries, obſervations, and conſultations upon ſeveral important queſtions reſpecting the laws both of Anjou and of France, with ſeveral diſſertations upon different ſubjects, &c. reprinted in 1725 in 2 vols. fol. by Livonniere, with remarks.

(2.) PINEAU, or PINÆUS, Severin Du, a native of Chartres, and firſt ſurgeon to the king of France. He was very ſkilful in lithotomy; and has left behind him, 1. A Diſcourſe concerning the Extraction of the Stone in the Bladder, published in 1610 in 8vo. 2. A treatiſe *De Virginitate*, printed at Leyden 1641, in 12mo. He died at Paris, in 1619.

(1.) PINEDA, John, a learned Jeſuit, born at Seville of a noble family. He entered into the ſociety in 1572. He taught philoſophy and divinity in ſeveral colleges; devoted his time to the ſtudy of the Scriptures; and for that purpoſe made himſelf maſter of the oriental languages. His works are 1. Commentaries upon Job, 2 vols. folio. 2. Two upon Eccleſiaſtes. 3. A General Hiſtory of the Church, in Spaniſh, 1 vol. folio. 4. A Hiſtory of Ferdinand III. in Spaniſh, folio. He died in 1637, much regretted.

(2.) PINEDA, in geography, a town of Spain

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e SE. coaſt of Catalonia, 12 miles NE. of Ma-
ro. Lon. 19. 21. E. Peak of Teneriffe. Lat.
.37. N.

PINEG, a town of Ruſſia, in Archangel, on
e Pinega; 48 miles E. of Archangel. Lon. 59.
. E. Ferro. Lat. 64. 30. N.

PINEGA, a river of Ruſſia, which riſes in Uſ-
g, and runs into the Dwina; 8 miles E. of
olomgori, in Archangel.

PINEL, a town of France, in the department
the Iſere; 9 miles from Vienne.

PINELLI, John Vincent, a learned Italian,
s at Naples, ſon of Count Pinelli, a noble Ge-
e, who had ſettled in that city, and had ac-
ired a handſome fortune in trade. After re-
ving a liberal education he repaired to Padua,
the age of 24. He had an excellent library,
iſting of a choice collection of books and
SS. which he continued to enrich till the hour
his death. His literary correſpondence, not
y in Italy, but through the moſt of Europe,
cured him all the new works worthy of a place
is collection. The authors were often forward
pay their reſpects to him. In many cities of
y he had perſons employed to ſearch, at leaſt
e a month, the ſtalls of thoſe artificers, who
e uſe of old parchments, ſuch as lute-makers,
ewrights, and others; and thus often ſaved
m deſtruction ſome valuable fragments. His
ſion for knowledge embraced all the ſciences;
hiſtory, medals, antiquities, natural hiſtory,
tany, were his favourite ſtudies. He was
ked from all quarters, by the learned world.
correſponded with Juſtus Lipſius, Joſeph Sca-
, Sigonius, Poſſevin, Peter Pithou, and many
ers, who all paid the higheſt compliments to
erudition. Inſenſible to all the pleaſures of
, and acquainted only with thoſe of the mind,
had a great diſlike to plays, entertainments,
rs, and every thing which moſt excites the cu-
ty of other men. During 43 years that he
d at Padua, he was never known to be out of
ty but twice; once on occaſion of a plague
h infeſted it; and once on a voyage to
es, which he made at the earneſt ſolicitation
is friends. In ſhort, Pinelli was generous,
pathizing, and compaſſionate, particularly to
n of letters, whoſe wants he often anticipated.
s zeal for the advancement of ſcience rendered
n very communicative of his knowledge and of
books. He died in 1601, aged 68, without
ing publiſhed any work. Paul Gualdo, who
written Pinelli's life, ſays, that when his rich
rary was tranſported by ſea to Naples, it was
cked up in 130 cheſts, of which 14 contained
SS.; but it did not go wholly to his heirs.
e ſenate of Venice cauſed their ſeal to be ſet
on the M.SS. and took away what concerned
e affairs of the republic, to the number of 200
eces.—"I compare (ſays De Thou) Pinelli to
us Pomponius; for, as that illuſtrious Roman
s called *Attic*, Pinelli alſo bore the title of *Vene-
n*, on account of the great affection which the
public of Venice had for him.

(1.) PINES, or PINEZ, an iſland on the SW.
ſaſt of Cuba, from which it is divided by a deep
rait, 18 miles wide. The iſland is 25 miles long
and 15 broad, and abounds with pines, and good
paſture. Lon. 83. 25. W. Lat. 21. 30. N.

(2.) PINES, BAY OF, a bay on the coaſt of W.
Florida. Lon. 88. 21. W. Lat. 30. 20. N.

(3.) PINES, CAPE, or CAPE PINE, a cape on
the S. coaſt of Newfoundland, 24 miles W. of
Cape Race. Lon. 53. 20. W. Lat. 46. 42. N.

(4.) PINES, ISLAND OF, an iſland in the S. Pa-
cific Ocean, near the S. coaſt of New Caledonia,
ſo named by Capt. Cook from its abounding with
tall pines. It is about 14 miles broad, but re-
markably high in the middle, being quite a point-
ed hill, ſloping on all ſides to the extremities
which are low. Lon. 167. 43. E. Lat. 22. 38. S.

(5.) PINES, ISLAND OF, an iſland of S. America,
near the coaſt of Terra Firma, with a good har-
bour, formed by two adjacent iſles and the main
land; 123 miles E. of Porto Bello. Lon. 80. 15.
W. Lat. 9. 12. N. or according to Mr Cruttwell,
Lon. 77. 36. W. Lat. 8. 35. N.

(6.) PINES, ISLAND OF THE, one of the Samba-
loe iſles. See DARIEN, § I, 1.

PINET, Antony Du, lord of Noroy, a native
of Beſançon, who lived in the 16th century. He was
ſtrongly attached to the Proteſtant religion, and a
bitter enemy to the church of Rome. His book,
entitled *La Conformité des Egliſes Reformés de
France, de l'Egliſe primitive*, Lyons, 1564, in 8vo;
and the notes he added to the French tranſlation
of *the Fees of the Pope's Chancery*, printed at Lyons,
in 8vo. 1564, and reprinted at Amſterdam in 1700,
in 12mo, plainly diſcover his ſentiments. He
publiſhed the laſt mentioned performance under
this title: *Taxe des parties caſuelles de la boutique du
Pape*, in Latin and French, with ſome notes taken
from decrees, councils, and canons, to aſcertain
the diſcipline anciently obſerved in the church.
His tranſlation of Pliny's Natural Hiſtory, with
notes, printed at Lyons, in 2 vol. folio, 1566, and
at Paris, 1608, was much read. Pinet alſo pub-
liſhed Plans of the principal fortreſſes in the
world, at Lyons, 1564, in folio.

PINETZKOI, a town of Ruſſia, in Archangel,
on the Dwina; 60 miles SSE. of Archangel.

PINEY, a town of France, in the dep. of the
Aude; 12 miles NE. of Troyes, and 13½ SE. of
Arcis.

PINEZ. See PINES, N° 1.

* PINFEATHERED. *adj.* [*pin* and *feather.*]
Not fledged; having the feathers yet only begin-
ning to ſhoot.—

We ſee ſome raw *pinfeather'd* thing
Attempt to mount. *Dryden.*

* PINFOLD. *n. ſ.* [*pindan*, Sax. to ſhut up,
and *fold.*] A place in which beaſts are confined.
—The Engliſh, nothing ſuſpecting, are taken at
an advantage, like ſheep in the *pinfold. Spenſer on
Ireland.*—

I care not for thee.—
—If I had thee in Lipſbury *pinfold*, I would make
thee care for me. *Shak. K. Lear.*—

Confin'd and peſter'd in this *pinfold* here.
Milton.

Oaths were not purpos'd more than law
To keep the good and juſt in awe,
But to confine the bad and ſinful,
Like moral cattle in a *pinfold.* *Hudib.*

(1.) PING,

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(1.) PING, or PIN, a town of China of the 2d rank, in Chen-ſi, on the Kincha; 612 miles SW. of Peking. Lon. 125. 26. E. Ferro. Lat. 35. 5. N.

(2.) PING, a town of China of the 2d rank, in Quang-ſi; 1112 miles SSW. of Pekin. Lon. 126. 2. E. Ferro. Lat. 23. 13. N.

PING-CHAN, a town of China, in Se-tchuen.

PING-HAI, a town of Corea, 115 miles SE. of Kingkitao. Lon. 146. 27. E. Ferro. Lat. 36. 47. N.

PING-KIANG, a town of China, in Hou-quang.

PING-KING, a city of China of the 1ſt rank, in Koei-tcheou; 930 miles SSW. of Pekin. Lon. 124. 42. E. Ferro. Lat. 26. 38. N.

* PINGLE. *n. ſ.* A ſmall cloſe; an incloſure. *Ainſworth.*

PING-LEANG, a city of China inthe province of Chen-ſi. It is one of the moſt conſiderable cities of the W. part of the province, and is ſituated on the river Kin-ho. The air is mild; and the agreeable views which the ſurrounding mountains preſent, added to the ſtreams which water the country, render it a very delightful reſidence. It has under its juriſdiction 3 cities of the ſecond claſs and 7 of the third. In this diſtrict is a valley ſo deep and narrow, that it is almoſt impervious to the light: a large highway, paved with ſquare ſtones, runs through it. It is 550 miles SW. of Pekin. Lon. 124. 4. E. Ferro. Lat. 35. 35. N.

PING-LO, a city of China, of the firſt rank, in Quang-ſi; 1000 miles SSW. of Pekin. Lon. 127. 50. E. Ferro. Lat. 24. 22. N.

PING-NAN, a town of China, in Quang-ſi.

PINGOLA. See PINOLA.

PINGRE, Alexander Guy, a celebrated French aſtronomer, born in 1709. He was a zealous advocate for the freedom of the French church, againſt the biſhops; for which he was five times taken up by lettres de cachet. Having made great proficiency in aſtronomy, he publiſhed A Calculation of an eclipſe of the Moon, on the 23 Dec. 1749. In 1760, the Academy of Sciences appointed him to obſerve the tranſit of Venus. He calculated the eclipſes for 1000 before our Saviour's birth. On the death of M. De Liſle, he was elected geographical aſtronomer. He tranſlated Manilius's poetical treatiſe on Aſtronomy. He afterwards ſtudied Botany with ſucceſs. He died in 1796.

PING-TCHAI, and PING-TCHANG, two towns of Aſia, in Corea.

PING-TCHOUEN, a town of China, of the 2d rank, in Yunnan; 1187 miles SSW. of Pekin. Lon. 118. 10. E. Ferro. Lat. 25. 47. N.

PING-TING, a town of China, of the 2d rank, in Chen-ſi, 187 miles SSW. of Pekin. Lon. 131. 4. E. of Ferro. Lat. 37. 52. N.

PINGUEDO. See FAT, § 3.

PINGUICULA, BUTTERWORT, a genus of the monogynia order, belonging to the diandria claſs of plants; and in the natural method, ranking under the 24th order, *Corydales*. There are four ſpecies; of which the moſt remarkable is

PINGUICULA VULGARIS, *common butterwort*, or *Yorkſhire Sanicle*, grows commonly on bogs or low moiſt grounds in England and Scotland. Its leaves are covered with ſoft, upright pellucid prickles, ſecreting a glutinous liquor. The flowers are pale red, purple, or deep violet colour, and hairy within. If the freſh gathered leaves of this plant are put into the ſtrainer through which warm milk from the cow is poured, and the milk ſet by for a day or two to become acefcent, it acquires a conſiſtency and tenacity, and parts with whey nor cream ſeparate from it. In this ſtate it is an extremely grateful food, and as ſuch is uſed by the inhabitants of the north of Sweden. There is no further occaſion to have recourſe to the leaves; for half a ſpoonful of this prepared milk mixed with freſh warm milk, will convert it to its own nature, and this again will change another quantity of freſh milk, and ſo on without end. The juice of the leaves kills lice; and the common people uſe it to cure the cracks or chaps in cows udders. The plant is generally ſuppoſed injurious to ſheep, by occaſioning in them the diſeaſe called the *rot*. But from experiments made on purpoſe, and conducted with accuracy, it appears, that neither ſheep, cows, goats, horſes or ſwine will feed upon this plant. Wherever this plant is found, it is a certain indication of a boggy ſoil. The Laplanders make an agreeable food with the milk of the rein-deer by the help of leaves of this plant, like that of the Swedes with the milk of cows, and with the ſame conſequences.

* PINGUID. *adj.* [*pinguis*, Lat.] Fat; unctuous. Little uſed.—Some clays are more pinguid and others more ſlippery. *Mortimer.*

(I.) PINGUIN, in geography, an iſland on the Cape of Good Hope, abounding with penguins.

(II.) PINGUIN, or PENGUIN, in ornithology, a genus of birds of the order of palmipedes, diſtinguiſhed by Mr Latham by the following characters: The bill is ſtrong, ſtrait, more or leſs bending towards the point, and furrowed on the ſides; the noſtrils are linear, and placed in the furrows; the tongue is covered with ſtrong ſpines pointing backwards; the wings are ſmall, and like fins, and covered with no longer feathers than the reſt of the body, and therefore unfit for flight; the body is clothed with thick ſhort feathers, having broad ſhafts, and placed as exactly as the ſcales of fiſhes; the legs are ſhort and thick, and placed very near the vent; the toes are 4, all placed forwards, the interior are long, and the reſt are webbed; the tail is very ſtiff, conſiſting of broad ſhafts ſcarcely webbed. Penguins are inhabitants of S. latitudes only; being, as far as is yet known, found only on the coaſts of America from Port Deſire to the Straits of Magellan; and Frezier ſays they are found on the W. coaſt as high as Conception. In Africa they ſeem to be unknown, except on a ſmall iſle near the Cape of Good Hope, which takes its name from them. They are found in vaſt numbers on land during the breeding ſeaſon; for they ſeldom come on ſhore but at that time: they form burrows under ground like rabbits; and the iſles they frequent are perfectly undermined by them. Their attitude on land is quite erect, and on that account they have been compared by ſome to pygmies, by others to children with white bibs. They are very tame, and may be driven like a flock of ſheep. In water they are remarkably active, and ſwim with vaſt ſtrength, aſſiſted by their wings which ſerve inſtead of fins. Their food in general

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is fish; not but that they will eat grass like ſe. Mr Latham remarks, that this genus apirs to hold the ſame place in the ſouthern di-on of the earth that the awks do in the nor-rn; and that, however authors may differ in nion on this head, they ought not to be con-uded with one another. The pinguin is never but in the temperate and frigid zones S. of equator, while the awk only appears in the allel latitudes N. of the equator; for neither beſe genera have yet been obſerved within the pics. Forſter, in his voyage (vol. i. page 92.), he ſaw one for the firſt time in lat. 48. S. ar they ever met with nearer than 40° S. (*Id. ad. Diſc. on Pinguins, Comment. Got.* vol. 3d.) wings of the pinguin are ſcarcely any thing than mere fins, while the awk has real wings gills, though they be but ſmall. The former four toes on each foot, the latter only three. ile ſwimming, the pinguin ſinks wholly above breaſt, the head and neck only appearing out e water, while the awk, like moſt other birds, s on the ſurface. There are ſeveral other ilarities which ſerve to diſtinguiſh the two ra, but what we have mentioned are doubt-ufficient. "The bodies of the pinguin tribe our author) are commonly ſo well and cloſe-vered with feathers that no wet can pene-; and as they are in general exceſſively fat, circumſtances united ſecure them from cold. have often been found above 700 leagues land; and frequently on the mountains of on which they ſeem to aſcend without diffi-, as the ſoles of their feet are very rough ſuited to the purpoſe." Mr Latham enume-nine different ſpecies of this genus, beſides rarieties of the black-footed pinguin or DIO-TA.

PINGUIN, ANTARCTIC, is about 25 inches and weighs about 11½ lb. The bill is up-of 2½ inches long; the upper parts of the are black, the under are gloſſy white; be-the chin there is a narrow ſtreak of a black-olour, paſſing backward towards the hind a little bent about the region of the ears; ings are much the ſame as in the other ſpe-the tail is cuneiform: the feathers, or ra-mifica, of which it is compoſed are black number 32; the legs are of a fleſh colour, e ſoles of the feet are black. "This ſpecies Latham) inhabits the ſouth ſea, from 48° to tarctic circle; and is frequently found on on mountains and iſlands, which it aſcends; pretty numerous ſpecies. Our laſt voyagers them in plenty in the Iſle of Deſolation. In nd they touched at not greatly diſtant, the were almoſt covered with the pinguins and the firſt probably of this ſort.

PINGUIN, BLACK-FOOTED, or *diomedea de-*See DIOMEDEA, N° 1.

PINGUIN, COLLARED, is a very little leſs he papuan, being 18 inches long. The bill, is black, is ſimilar to that of the patago-nguin; the irides are black: the eye is ſur-d with a bare ſkin of a blood colour, of an ape, and three times as large as the eye it-he head, throat, hind part of the neck and back, wings, and tail, are all black; the fore part of the neck, breaſt, belly, and thighs, are white, extending round the neck, where the white begins like a collar, except that it does not quite meet at the back part; the legs are black. This ſpecies inhabits New Guinea. It was alſo ſeen by Dr Forſter near Kerguelen's Land; and again on two iſles adjoining to the iſland of South Georgia.

4. PINGUIN, CRESTED, is a very beautiful ſpecies, 23 inches long; the bill is 3 inches long, and of a red colour, with a dark furrow running along on each ſide to the tip; the upper mandible is curved at the end, the under is obtuſe; the irides are of a dull red; the head, neck, back, and ſides are black. Over each eye there is a ſtripe of pale yellow feathers, which lengthens into a creſt behind, nearly four inches long; the feathers on each ſide of the head, above this ſtripe, are longer than the reſt, and ſtand upward, while thoſe of the creſt are decumbent, but can be erected on each ſide at pleaſure; the wings, or rather fins, are black on the outſide, edged with white; on the inſide they are white; the breaſt and all the under parts are alſo white; the legs are orange, and the claws are duſky. The female has a ſtreak of pale yellow over the eye but it is not prolonged into a creſt behind as in the male. This ſpecies inhabits Falkland Iſlands, and was likewiſe met with in Kerguelen's Land, or Iſle of Deſolation, as well as at Van Diemen's Land, and New Holland, particularly in Adventure Bay. They are called *hopping pinguins* and *jumping jacks*, from their action of leaping quite out of the water, on meeting with the leaſt obſtacle, for 3 or 4 feet at leaſt: and indeed they often do this, without any ſeeming cauſe, unleſs to advance. This ſpecies ſeems to have a greater air of livelineſs in its countenance than others, yet is in fact a very ſtupid bird, ſo much ſo as to ſuffer itſelf to be knocked on the head with a ſtick when on land. Forſter ſays he found them difficult to kill, and when provoked, he adds, they ran at the ſailors in flocks, and pecked their legs, and ſpoiled their clothes. When angered too they erect their creſts in a beautiful manner. Theſe birds make their neſts among thoſe of the pelican tribes, living in tolerable harmony with them; and lay ſeldom more than one egg, which is white, and larger than that of a duck. They are moſtly ſeen by themſelves, ſeldom mixing with other pinguins. They are often met with in great numbers on the outer ſhores, where they have been bred. They frequently ſuffer themſelves to be taken by the hand. The females lay their eggs in burrows, which they eaſily form with their bills, throwing out the dirt with their feet. In theſe holes the eggs are depoſited on the bare earth. The time of ſitting is in October; but ſome of the ſpecies, eſpecially in the colder parts, do not ſit till December, or even January. How long they ſit is not known.

5. PINGUIN, MAGELLANIC, is about the ſize of the antarctic pinguin. They are about 2 feet and ſometimes 2½ feet long, and weigh 11 pounds. The bill is black, having a tranſverſe band across near its tip; the head and neck are black, except a few markings here and there; the upper parts of the body and wings are of the ſame colour; the

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the under parts of both are white from the breaſt, except a narrow band of black paſſing at a little diſtance within the white on the breaſt, and downwards on each ſide, beneath the wings quite to the thighs; the legs are of a reddiſh colour, irregularly ſpotted on the thighs; and the claws are black. This ſpecies, which is very numerous, inhabits the Straits of Magellan, Staten Land, Terra del Fuego, and Falkland iſlands. Far from being timid, theſe birds will often attack a man and peck his legs. As food they are not at all unpalatable. They often mix with ſea wolves among the ruſhes, burrowing in holes like a fox. They ſwim with prodigious ſwiftneſs. They lay their eggs in collective bodies, reſorting in incredible numbers to certain ſpots, which their long reſidence has freed from graſs, and to which were given the name of *towns*.—Penroſe obſerves, that they compoſed their neſts of mud, a foot in height, and placed as near one another as may be. "The eggs (ſays he) are rather larger than thoſe of a gooſe, and laid in pairs. When we took them once, and ſometimes twice in a ſeaſon, they were as often replaced by the birds; but prudence would not permit us to plunder too far, leſt a ſupply in the next year's brood might be prevented." They lay ſome time in November, driving away the albatroſſes, which have hatched their young in turn before them. The eggs were palatable food, and were preſerved good for 3 or 4 months.

6. PINGUIN, PAPUAN, is about 2½ feet long, being a little bigger than the *Cape Pinguin*. This ſpecies inhabits the Iſle of Papos, or New Guinea: and has been met with at Falkland Iſles and Kerguelen's Land; it is often found among the Patagonian pinguins.

7. PINGUIN, PATAGONIAN, is ſo named, not only becauſe it is found on that coaſt, but alſo becauſe it exceeds in bulk the common pinguins as much as the people are ſaid to do the common race of men. It was firſt diſcovered by Captain Macbride, who brought one of them from Falkland Iſlands off the Straits of Magellan. The length of the ſtuffed ſkin of this bird meaſured 4 feet 3 inches, and the bulk of the body ſeemed to exceed that of a ſwan. The bill was 4½ inches long, ſlender, ſtraight, bending on the end of the upper mandible, with no noſtrils. The tongue half the length of the bill, and ſingularly armed with ſtrong ſharp ſpikes pointing backwards. The plumage is moſt remarkable, the feathers lying over one another with the compactneſs of the ſcales of a fiſh; their texture equally extraordinary; the ſhafts broad and very thin; the vanes unwebbed; the head, throat, and hind part of the neck, are of a deep brown colour; from each ſide of the head to the neck are two lines of bright yellow, broad above, narrow beneath, and uniting half way down; from thence the ſame colour widens towards the breaſt; fading away till it is loſt in pure white, of which colour is the whole under ſide of the body, a duſky line dividing it from the colour of the upper part. The whole back is of a very deep aſh colour, almoſt duſky; but the end of each feather is marked with a blue ſpot, thoſe about the junction of the wings larger and paler than the other. The wings are in this ſpecies, as in all the others, extremely ſhort in reſpect to the ſize of the bird; hang down, and have the appearance of fins, whoſe office is to perform; their length is only 14 inches; on the outſide they are duſky, and covered with ſcale-like feathers, or at beſt, with ſuch whoſe ſtrings are ſo broad and flat as ſcarce to be diſtinguiſhed from ſcales; thoſe on the ridge of the wings conſiſt entirely of ſhaft; the larger, or quill feathers have ſome very ſhort webs. The tail conſiſts of 30 brown feathers, or rather thin ſhafts, reſembling ſplit whale-bone; flat on the upper ſide, concave on the under, and the webs ſhort, and unconnected, and briſtly. From the knees to the end of the claws ſix inches, covered with ſmall pentangular black ſcales; the fore toe ſcarce an inch long, and the others ſo remarkably ſhort, as to evince the neceſſity of that ſtrength of the leg which ſeems intended as a ſupport to the bird in its erect attitude; in the ſame manner as that of the woodpecker is when it clings to the bark of trees: between the toes is a ſtrong ſcaly membrane, continued up even part of the claw; the middle claw is near an inch long, and the inner edge very ſharp and thin; the interior toe ſmall, and placed very high. The ſkin is extremely tough and thick; which, with the cloſeneſs of the feathers, guards it effectually from the water. This ſpecies, which was firſt met with at Falkland Iſlands, has ſince been ſeen in Lycurgus's Land, New Georgia, and New Guinea. M. Bougainville caught one, which ſoon became tame as to follow and know the perſon who took care of it: it fed on fleſh, fiſh, and bread; but after a time grew lean, pined away, and died. The chief food, when at large, is thought to be fiſh; the remains of which as well as crabs, ſhell-fiſh, and moluſcæ, were found in the ſtomach. This ſpecies is the fatteſt of the tribe; and therefore moſt ſo in January when they moult. They are ſuppoſed to lay and ſit in October. They are met with in the moſt deſerted places. The fleſh is black, though not very unpalatable. This has been conſidered as a ſolitary ſpecies, but now and then been met with in conſiderable They are found in the ſame places as the pinguins, and not unfrequently mixed with them, but in general ſhow a diſpoſition of aſſociating with their own ſpecies.

8. PINGUIN, RED-FOOTED, or phaeton, demerſus. See PHAETON, § III, N° 2.

9. PINGUIN, SMALL, or, as Latham calls it, the *little pinguin*, is about the ſize of a teal, 15 inches long. The bill, which is of a dull colour, is about 1½ long, and ſhaped like that of the phaeton demerſus; the upper parts of the body from the head to the tail appear to be of a cærulean blue colour, of which colour are the baſes of the feathers; the baſe of them, however, brown black, and the ſhafts of each of that colour; the under parts from chin to vent white; the wings are duſky above and white beneath; the tail, which is exceedingly ſhort, conſiſts of 16 ſtiff feathers, which are ſcarcely perceptible; the legs are of a dull red colour; the claws are duſky, and the claws are black. This ſpecies is pretty common among the rocks on the S. coaſt of New Zealand, but they are moſt frequent

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Dusky Bay. They make deep burrows on the sides of the hills, in which they lay their eggs: these holes are so thick in some parts, that a person is scarcely able to walk 3 or 4 steps without falling into one of them up to the knees. The inhabitants of Queen Charlotte's Sound kill them with sticks, and, after skinning them, esteem the flesh as good food. At New Zealand they are named *korora*.—"These birds (says Latham,) I have found to vary both in size and colour: some are much smaller than others, quite black above, and measure only 13 inches in length; others are rather larger, and of a plain lead-colour on the upper parts, and the wings black, though all are white, or nearly so, beneath. The legs in these two last are marked with black at the ends of the toes; and the claws are black."

PINGUS, a river of Mysia, which runs into the Danube. *Plin.* iii. c. 26.

PING-Y, a town of China, in Yun-nan.

PING-YANG, a town of China, in Kiang-si.

PING-YUEN, two towns of China: 1. of the 2d rank in Koei-tcheou, 985 miles SSW. of Pekin: 2. of the 3d rank, in Canton; 82 miles NW. of Tchao-tcheou.

PINHEIRA, a town of Portugal, in Beira, on the Mondago; 15 miles SW. of Viseu.

PINHEL, a fortified town of Portugal, in Beira, seated on a mountain. It has parish churches and about 1600 inhabitants; 8 miles NE. of Alaeida, and 45 SE. of Lamego. Lon. 11. 51. E. Ferro. Lat. 40. 33. N.

PIN-HO, a town of China, in Fo-kien.

* PINHOLE. *n. s.* [*pin* and *hole*.] A small hole, such as is made by the perforation of a pin.—The craft at first broke in a small *pinhole*. *Wiseman*.

(1.) * PINION. *n. s.* [*pignon*, French.] 1. The joint of the wing remotest from the body. 2. *Shakespeare* seems to use it for a feather or quill of the wing.—

He is pluckt, when hither
He sends so poor a *pinion* of his wing. *Shak.*

Wing.—

How oft do they with golden *pinions* cleave
The flitting skies? *Spenser.*

The God, who mounts the winged winds,
Fast to his feet the golden *pinions* binds. *Pope.*

Tho' fear should lend him *pinions* like the wind,
Yet swifter fate will seize him from behind. *Swift.*

3. The tooth of a smaller wheel, answering to that of a larger. 5. Fetters on bonds for the arms. *Ainsworth.*

(2.) PINION, in mechanics, an arbor, or spindle, the body whereof are several notches, which catch the teeth of a wheel that serves to turn it round, or it is a lesser wheel that plays in the teeth of a larger.

* *To* PINION. *v. a.* [from the noun.] 1. To bind the wings.—They become sacrifices to the constancy of fortune, whose wings they thought their self-wisdom to have *pinioned*. *Bacon.* 2. To confine by binding the wings; to maim by cutting off the first joint of the wing. 3. To bind the arm to the body.—

A second spear sent with equal force,
His right arm pierce'd, and holding on, bereft
His use of both, and *pinion'd* down his left. *Dryd.*

4. To confine by binding the elbows to the sides.

Swarming at his back the country cry'd,
And seiz'd and *pinion'd* brought to court the knight. *Dryd.*

5. To shackle; to bind.—Know, that I will not wait *pinion'd* at your master's court. *Shak. Ant and Cleop.*—You must be *pinion'd*. *Shak.*—

That my free soul may use her wing,
Which now is *pinion'd* with mortality. *Herbert.*

He's *pinion'd* up by formal rules of state. *Norris.*

6. To bind to. This is not proper.—

While on fame's triumphant car they ride,
Some slave of mine be *pinion'd* to their side. *Pope.*

(1.) * PINK. *n. s.* [*pince*, Fr. from *pink*, Dutch, an eye; whence the French word *œillet*; *caryophillum*, Lat.] 1. A small fragrant flower of the gilliflower kind.—In May and June come *pinks* of all sorts; especially the bluish *pink*. *Bacon's Essays.* 2. An eye; commonly a small eye: as, *pink*-eyed.

Come, thou monarch of the vine,
Plumpy Bacchus, with *pink* eyne. *Shak.*

3. Any thing supremely excellent. I know not whether from the flower or the eye, or a corruption of *pinacle*.—

I am the very *pink* of courtesy. *Shak.*

With patience wait; and be content to reign
The *pink* of puppies in some future strain. *Young.*

4. A colour used by painters.—*Pink* is very susceptible of the other colours by the mixture. *Dryden's Dufr.* 5. [*Pinque*, Fr.] A kind of heavy narrow-sterned ship.—

This *pink* is one of Cupid's carriers;
Give fire, she is my prize. *Shak. Merry Wives.*

6. A fish. The minow. *Ainsworth.*

(2.) PINK, a name given to a ship with a very narrow stern; whence all vessels, however small, whose sterns are fashioned in this manner, are called *pink sterned*.

(3.) PINK, in botany. See DIANTHUS.

(4-6.) PINK, INDIAN, the English name of three species of different genera; viz. DIANTHUS, N° 3; IPOMOEA, and LONICERA.

(7.) PINK, SEA, a species of STATICE.

(1.) * *To* PINK. *v. a.* [from *pink*, Dutch, an eye.] To work in eye-let holes; to pierce in small holes.—A haberdasher's wife of small wit rail'd upon me, till her *pink'd* porringer fell off her head. *Shak. Henry* VIII.—The sea-hedgehog is inclosed in a round shell, handsomely wrought and *pink'd*. *Carew's Survey of Cornwall.*—

Happy the climate, where the beau
Wears the same suit for use and show;
And at a small expence your wife,
If once well *pink'd* is cloath'd for life. *Prior.*

(2.) * *To* PINK. *v. n.* [*pincken*, Dutch; from the noun.] To wink with the eyes.—A hungry fox lay winking and *pinking*, as if he had sore eyes. *L'Estrange.*

PINKUSELT, a town of Hungary, 10 miles W. of Steinam Anger.

PINKZOW, a town of Poland, in Sandomirz; 52 miles W. of Sandomirz.

PIN-LI, a town of China, in Chen-si.

PIN-LON, a town of China, in Chang-si, on the Hoang, 15 miles SE. of Kai.

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* PIN-MAKER. *n. f.* [*pin* and *maker*.] He who makes pins.

PIN-MAKING, *n. f.* See PIN, § 2.

* PIN-MONEY. *n. f.* [*pin* and *money*.] Money allowed to a wife for her private expences without account.—The woman muſt find out ſomething elſe to mortgage, when her *pin-money* is gone. *Addiſ.*

(I.) PINNA, in ancient geography, a town of Italy, S. of Picenum, at the mouth of the Matrinus. *Sil.* 8. v. 518.

(II.) PINNA, in zoology; a genus belonging to the order of vermes teſtacea. See MYTILUS, N° 4. The animal is a ſlug. The ſhell is bivalve, fragile, and furniſhed with a beard; gapes at one end; the valves hinge without a tooth. They inhabit the coaſts of Provence, Italy, and the Indian ocean. See *Plate* CCLXXIV.

PINNA MARINA, the largeſt and moſt remarkable ſpecies, inhabits the Mediterranean. It is blind, as are all of the genus; but furniſhed with very ſtrong calcareous valves. The ſcuttle-fiſh (*ſepia*), an inhabitant of the ſame ſea, is a deadly foe to this animal: as ſoon as the pinna opens its ſhell, he ruſhes upon her like a lion; and would always devour her, but for another animal of the crab kind, (ſee CANCER, N° 15.) naked like the hermit, and very quick ſighted. This cancer or crab the pinna receives into her covering; and when ſhe opens her valves in queſt of food, lets him out to look for prey. During this the ſcuttle-fiſh approaches; the crab returns with the utmoſt ſpeed and anxiety to his hoſteſs, who being thus warned of the danger ſhuts her doors, and keeps out the enemy. Dr Haſſelquiſt, in his voyage towards Paleſtine, beheld this curious phenomenon, which though well known to the ancients had eſcaped the moderns. Ariſtotle (*Hiſt.* lib. 5. c. 15.) and Pliny (lib. 9. 51. and 60.) confirm the facts above ſet forth. The pinna marinæ differ leſs from muſcles in the ſize of their ſhells than in the fineneſs and number of certain brown threads which attach them to the rocks, hold them in a fixed ſituation, ſecure them from the rolling of the waves, eſpecially in tempeſts, and aſſiſt them in laying hold of mine. See MYTILUS, N° 4. Theſe threads, M. de Reaumur ſays, are nearly as fine and beautiful as ſilk from the ſilk worm, and hence calls them the *ſilk-worms of the ſea*. Stuffs, and ſeveral kinds of beautiful manufacture, are made of them at Palermo; in many places they are the chief object of fiſhing, and become a ſilk proper for many purpoſes. It requires a conſiderable number of the pinnæ marinæ for one pair of ſtockings. This ſingular thread is ſo fine, that a pair of ſtockings made of it can be eaſily contained in a ſnuff-box of an ordinary ſize. Many manufacturers are employed in manufacturing theſe threads into various ſtuffs at Palermo and other places. The men who are employed in fiſhing up the pinna marina, ſay, that it is neceſſary to break the tuft of threads. They are fiſhed up at Toulon, from the depth of 15, 20, and ſometimes more than 30, feet, with an inſtrument called a cramp. This is a kind of fork of iron, of which the prongs are perpendicular with reſpect to the handle. Each of them is about 8 feet long, and there is a ſpace between them of about ſix inches. The tuft of ſilk iſſues directly from the body of the animal; it comes from the ſhell at the place where it opens, about 4 or 5 inches from the ſummit or point in the large pinnæ. M. de Reaumur, (*Mem. de l'Acad. des Sciences*, 1711, p. 216, and 1717, p. 177,) conſiders the pinna as the moſt proper of all ſhell-fiſh to elucidate the formation of pearls. It produces many of them of different colours, as grey or leaden coloured, red, and ſome of a blackiſh colour, and in the form of a pear. The animal which lodges in the pinna marina rarely ſhows itſelf, becauſe the valves are ſeldom opened. Its head is below its largeſt extremity oppoſite; it is kept in the ſhell by four vigorous muſcles, placed at the extremities of the valves; the ſhell has no hinge but a flat and blackiſh ligament, which is equal in length to one-half of the ſhell. See PINNOTHER and PEARL. M. d'Argenville diſtinguiſhes three kinds of the pinnæ:

1. PINNA M. ASTURA of the Venetians, is deep red within, and has reddiſh mother-of-pearl, ſimilar to the ſubſtance of the ſhell itſelf. Some of theſe ſhells weigh near 15 lb.

2. PINNA M. PAPYRACEA, is ſmaller, ſlender, *papyraceous*, of the colour of horn, a little ſtained with pale red.

3. PINNA M. PERNA, is adorned with points in the channels of the ſhell, but what is ſingular, the edges of the ſhell are thicker at the openings than at the joining of the valves.

(1.) * PINNACE. *n. f.* [*pinnaſſe*, Fr. *pinaſſa*, Italian; *pinaça*, Span.] A boat belonging to a ſhip of war. It ſeems formerly to have ſignified only a ſmall ſloop or bark attending a larger ſhip.—

Whilſt our *pinnace* anchors in the downs,
Here ſhall they make their ranſom on the land.
Shak.

—For fear of the Turks great fleet, he came by night in a ſmall *pinnace* to Rhodes. *Knolles's Hiſt.*—He cut down wood, and made a *pinnace*. *Bacon.*—I ſent a *pinnace* or poſt of advice, to make diſcovery of the coaſt. *Spelman.*—

Thus to ballaſt love,
I ſaw I had love's *pinnace* overfraught. *Donne.*
—I diſcharged a bark, taken by one of my *pinnaces*. *Raleigh's Apology.*—

A *pinnace* anchors in a craggy bay. *Milton.*
The winged *pinnace* ſhot along the ſea. *Pope.*

(2.) *A* PINNACE is a ſmall veſſel navigated with oars and ſails, and having generally two maſts, which are rigged like thoſe of a ſchooner.

(3.) PINNACE is alſo a boat uſually rowed with 8 oars. See BOAT.

(1.) * PINNACLE. *n. f.* [*pinnacle*, Fr. *pinnaculum*, Lat.] 1. A turret or elevation above the roof of the building.—My letting ſome men go up to the *pinnacle* of the temple, was a temptation to them to caſt me down headlong. *King Charles.*—He who deſires only heaven, laughs at that enchantment which engages men to climb a tottering *pinnacle*, where the ſtanding is uneaſy, and the fall deadly. *Decay of Piety.*—He took up ſhip-money when Noy left it, and, being a judge, carried it on that *pinnacle*, from whence he almoſt broke his neck. *Clarendon.*—

Some metropolis
With gliſt'ring ſpires and *pinnacles* adorn'd. *Milton.*

2. A high ſpiring point.—

The gilded *pinnacles* of fate. *Cowley.*

(2.) For

(1.) PINNACLE, in architecture, the top of an ufe, terminating in a point. This kind of roof ong the ancients was appropriated to temples; ir ordinary roofs were all flat, or made in the ıtform way.

(3.) PINNACLE, in geography, a cape on the W. ift of the ifle of Jerfey; one mile S. of Grones.

(4.) PINNACLE-ISLAND, an iſland in the N. Pa- ic Ocean. Lon. 172. 30. W. Lat. 60. 25. N.

(5.) PINNACLES, one of the FARN ISLANDS, in moſt diſtant groupe, ſo called, from ſome vaſt lumnar rocks at the ſouth end, even at their e, flat at the tops, and entirely covered with llemots and ſhags. The fowlers paſs from one the other of theſe columns by means of a board, ich they place from top to top, forming a nar- bridge over ſuch a dreadful gap that the very ıt of it ſtrikes one with horror.

PINNATED LEAVES, in botany. See BOTANY.

PINNATIFIDUM FOLIUM. See BOTANY, *Gloſſ.*

PINNATIPEDES, [Lat. from *pinna*, a fin, and a foot.] in ornithology, an order of birds that *pinnated feet*, or are *fin-footed*. It is the 8th er both in the Linnæan ſyſtem, and in Mr La- m's; (ſee ORNITHOLOGY, *Sect.* IV.) but the according to Dr Gmelin's arrangement, which ollowed by Mr Kerr; who characteriſes them s:—"The bill, body, and mode of life, in the ds of this order, reſemble thoſe of the *Waders*. e thighs are likewiſe naked for the lower half, d the feet are fitted for wading in marſhes, all e toes being divided; but the toes are edged on ch ſide with a membrane for their whole length. eſe birds moſtly live in pairs, while breeding, l conſtruct very large neſts of various leaves l graſs in their marſhy haunts." See GRALLÆ, WADERS. There are only three genera, ac- ding to all theſe ornithologiſts.

PINNATUM FOLIUM. See BOTANY, *Gloſſary*.

PINNAW, a river of Germany, which runs into Elbe, 20 miles below Hamburg, in Holſtein.

PINNE, a town of Poland, in Poſnan.

PINNEBERG, or PINNENBURG, a town of ſtein, and capital of a county ſo named, which dependent of Holſtein. It is ſeated on the e, 8 miles NW. of Holſtein, 19 ESE. of Gluck- ſt, and 15 NW. of Hamburg. Lon. 9. 40. E. 53. 46. N.

(1.) PINNEL, a river of Portugal, in Tra-los- ntes, which runs into the Coha.

(2, 3.) PINNEL, a ſtrong town of Portugal, in los-Montes, capital of a territory ſo named, ed at the conflux of the Coha and Pinnel, 25 es N. of Guarda. Lon. 6. 40. W. Lat. 40. 46. N.

PINNENBURG. See PINNEBERG.

PINNER. *n. ſ.* [from *pinna*, or *pinion*.] 1. e lappet of a head which flies looſe.—

Set off with kerchief ſtarch'd, and *pinners* clean. *Gay.*

An antiquary will ſcorn to mention a *pinner* or ight-rail. *Addiſon on Ancient Medals.* 2. A pin- ker. *Ainſworth.*

PINNOCK. *n. ſ.* [*curruca*.] The tom-tit. *Ainſ.*

PINNOPHYLAX, PINNOTERES, or PINNOTERUS, } a kind of crab-fiſh, fur- niſhed with very good eyes. It is ſaid to be the mpanion of the pinna marina. They live and ge together in the ſame ſhell, which belongs to the latter. When it has occaſion to eat, it opens its valves, and ſends out its faithful purveyor to procure food. If during their labour the pinno- terus perceives the polypus, it immediately returns to warn its blind friend of the danger, when, by ſhutting its valves, it eſcapes the rage of its enemy; but when the pinnoterus loads itſelf with booty without moleſtation, it makes a gentle noiſe at the opening of the ſhell, and when admitted the two friends feaſt on the fruits of its induſtry. See PINNA, N° II.

PINNOW, a lake of Brandenburg, near Oranienburg.

PINOLA, or PINGOLA, a town of Mexico, in Guatimala; 75 miles E. of Guatimala.

(1.) PINOS, a town of Spain, in Grenada; 5 miles E. of Grenada.

(2.) PINOS, an iſland near the S. coaſt of Cuba, from which it is ſeparated by a deep ſtrait. It is 25 miles long, 15 broad, 75 in circumference, a- bounds with excellent paſture, and in its form re- ſembles a horſe ſhoe. It is mountainous, and co- vered with pines. Lon. 82. 33. W. Lat. 22. 2. N.

PINOSA, a town in the iſle of May.

PINQUENTE, a town of Maritime Auſtria, in Iſtria.

PINSK, or } a town of Ruſſian Lithuania, in PINSKO, } Brzeſk, ſeated on a river ſo named, and ſurrounded by marſhes. It was formerly a conſiderable town, but was much damaged by the Coſſacks. It abounds with Jews and Greeks: the latter have a biſhop. Its chief manufacture is Ruſſian leather. It is 84 miles E. of Brzeſk, and 100 SSE. of Grodno.

(1.)* PINT. *n. ſ.* [*pint*. Sax. *pinte*, Fr. *pinta*, low Lat.] Half a quart; in medicine, twelve ounces; a liquid meaſure.—Well, you'll not be- lieve me generous, till I crack half a *pint* with you at my own charges. *Dryden.*

(2.) PINT, [*pinta*,] a veſſel, or meaſure, uſed in eſtimating the quantity of liquids, and even ſome- times of dry things.—Budæus derives the word from the Greek πινδ; others from the German *pint*, a little meaſure of wine; Nicod from the Greek πινω, *to drink*. The *Engliſh pint* is two- fold; the one for wine meaſure, the other for beer and ale-meaſure. See MEASURE, § iii, and 4, ii. The Scots pint is 4 times as large.

PINTADA, a ſpecies of PROCELLARIA.

PINTARD'S SOUND, a large bay on the NW. coaſt of N. America, containing many iſlands, and extending from Point Diſappointment to Cape Scott on the S. in Lon. 128. 57. W. Lat. 50. 56. N.

PINTCHLUCO, a river of N. America, which joins the Chata-Uche, and falls into the Appala- chicola.

PIN-TCIANG, a town of China, in Quan-ſi, of the 2d rank; 1212 miles SSW. of Peking. Lon. 123. 50. E. Ferro. Lat. 22. 9. N.

PINTIA, an ancient town of Spain, ſuppoſed to have been on the ſite of VALLADOLID.

PINTLES, certain pints or hooks faſtened u- pon the back part of the rudder, with their points downwards, in order to enter into, and reſt upon, *googings*, fixed in the ſtern-poſt, to hang the rud- der. See HELM.

(1.) PINTO, a town of Spain, in New Caſtile; 9 miles S. of Madrid.

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(2.) PINTO. See MENDEZ, N° 2.

PINTOR, Peter, a native of Valentia in Spain, born in 1426; who was phyſician to Alexander VI. whom he followed to Rome, where he practiſed with great ſucceſs. He wrote 2 works of conſiderable merit, 1. *Aggregator Sententiarum Doctorum de Curatione in Peſtilentia*, printed at Rome 1499, in folio. 2. *De Morbo Fædo & Occulto his Temporibus Aſſigenti*, &c. printed at Rome, 1500, in 4to, black letter; a book extremely ſcarce, unknown to Luiſini and Aſtruc, and which traces the venereal diſeaſe to the year 1496. Pintor died at Rome in 1503, aged 83.

PINTURICCIO, Bernardin, a celebrated Italian painter, born at Peruſia in 1454. He was the diſciple of Peter Perugino, under whom he became ſo good an artiſt, that he employed him on many occaſions as his aſſiſtant. He principally painted hiſtory and groteſque; but he alſo excelled in portraits, among which thoſe of pope Pius II. and Innocent VIII. of Julia Farneſe, Cæſar Borgia, and Iſabella Q. of Spain, are particularly diſtinguiſhed. His chief performance is the hiſtory of Pius II. painted in ten compartments in the hiſtory of Siena; in which undertaking, Raphael, then a young man, aſſiſted him ſo far as to ſketch out cartoons of many parts of the compoſition. His death was occaſioned by a ſingular diſappointment. Being employed by the Franciſcan monks of Siena, to draw a picture, they gave him a chamber to paint in, which they cleared of all furniture except an old trunk, which he inſiſted on being alſo removed, in doing ſo it broke and diſcovered 500 pieces of gold which the Monks gladly ſeized, and the painter died of vexation at miſſing the treaſure.

* PINULES. *n. ſ.* In aſtronomy, the ſights of an aſtrolabe. *Dict.*

PINUS, the PINE-TREE; a genus of the monodelphia order, belonging to the monœcia claſs of plants; and, in the natural method, ranking under the 51ſt order, *Coniferæ*. The pine tree was well known to the ancients, and has been deſcribed and celebrated both by their philoſophers and poets. Pliny enumerates ſix ſpecies of this genus; and it is mentioned by Virgil in his Eclogues, Georgics, and Æneid; by Horace in his Odes; by Ovid in his Metamorphoſes; by Statius; and by Catullus, &c. There are generally reckoned 14 ſpecies of this genus. All of them are propagated by ſeeds produced in hard woody cones. The way to get the ſeeds out of theſe cones is to lay them before a gentle fire, which will cauſe the cells to open, and then the ſeeds may be eaſily taken out. If the cones are kept entire, the ſeeds will remain good for ſome years; ſo that the ſureſt way of preſerving them is to let them remain in the cones till the time for ſowing the ſeeds. If the cones are kept in a warm place in ſummer, they will open and emit the ſeeds; but if they are not expoſed to the heat, they will remain cloſe for a long time. The beſt ſeaſon for ſowing the pines is about the end of March. When the ſeeds are ſown, the place ſhould be covered with nets to keep off the birds; otherwiſe, when the plants begin to appear with the huſk of the ſeed on the top of them, the birds will peck off the tops, and thus deſtroy them. The moſt remarkable ſpecies are theſe:

1. PINUS ABIES, or *European ſpruce fir*, a native of the northern parts of Europe and of Aſia, includes the Norway ſpruce and long-coned Cornifhed fir. The former of theſe is a tree of as much beauty while growing as its timber is valuable when reared. Its growth is naturally upright; and the height it reaches renders it valuable: the white deal, ſo much coveted by the joiners, &c. is the wood of this tree; and from this fir pitch is drawn. The leaves are dark green; they ſtand ſingly on the branches, but the younger ſhoots are very cloſely garniſhed with them. They are very narrow; their ends are pointed; and their beauty excite admiration. The cones are 8 or 10 inches long, and hang downwards. The better the ſoil is, the faſter will the ſpruce fir grow, though it will thrive very well in moſt lands. In ſtrong loamy earth it makes a ſurpriſing progreſs; and it delights in freſh land of all ſorts, which it ſoon has been worn out by ploughing, &c. though it be never ſo poor. The long-coned Cornifh fir differs ſcarcely in any reſpect from the Norway ſpruce, except that the leaves and the cones are larger.

2. PINUS BALSAMEA, the *hemlock fir*, a native of Virginia and Canada, poſſeſſes as little beauty as any of the fir tribe; though, being rather rare, it is deemed valuable. It is called by ſome the *yew-leaved fir*, from the reſemblance of the leaves to thoſe of the yew tree. It is a tree of low growth, with but few branches; and theſe are long and ſlender, and ſpread abroad without order. The leaves do not garniſh the branches ſo plentifully as thoſe of any other ſpecies. The cones are very ſmall and rounded; they are about half an inch long; and the ſcales are looſely ranged. We receive theſe cones from America by which we raiſe the plants. This tree is fond of moiſt rich ground, and in ſuch ſoil makes the greateſt progreſs.

3. PINUS CANADENSIS, *American* or *Newfoundland ſpruce fir*, a native of Canada, Pennſylvania and other parts of North America, includes three varieties. The *white*, the *red* and the *black Newfoundland ſpruce*. Theſe, however, differ very little. They are of an upright growth, though they do not ſhoot ſo freely or grow ſo faſt with us as the Norway ſpruce. The leaves are of the ſame green, and garniſh the branches in the ſame beautiful manner as thoſe of that ſpecies; only they are narrower, ſhorter, and ſtand cloſer. The greateſt difference is obſervable in the cones; theſe are only about an inch long, and the ſcales are cloſely placed. In the cones, indeed, conſiſts the chief difference of theſe 3 varieties: thoſe of the white ſpecies are of a very light brown color, thoſe of the red more of a nut-brown or red colour; and thoſe of the black ſpecies of a dark or blackiſh colour. This trifling variation however is pretty conſtant in the plants raiſed from the ſeeds. The ſorts often flower, and produce cones when only about 5 or 6 feet high; and then very beautiful: but this is a ſign of weakneſs in the plant, which it does not often fairly get over.

4. PINUS

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4. Pinus cedrus, ranked by Tournefort and hers under larix, famous for its duration, is that ppularly called by us the *cedar of Lebanon*, by e ancients *cedrus magna* or the *great cedar*; alſo *lrelate*, κέδρος μεγάλη; and ſometimes the Phœnician Syrian cedar, from the country where it grows its greateſt perfection. It is a coniferous ever-reen, of the bigger ſort, bearing large roundiſh nes of ſmooth ſcales, ſtanding erect, the leaves ng ſmall, narrow, and thick ſet.—They ſome-es counterfeit cedar, by dying wood of a red-h hue: but the ſmell diſcovers the cheat, that true cedar being very aromatic. In ſome places, wood of the cajou-tree paſſes under the name cedar, on account of its reddiſh colour and its matic ſmell, which ſomewhat reſemble that ſantal. Cedar wood is reputed almoſt immor-and incorruptible; a prerogative which it owes efly to its bitter taſte, which the worms can-endure. For this reaſon it was that the an-nts uſed cedar tablets to write upon, eſpecially things of importance, as appears from that ex-ſion of Perſius, *Et cedro digna locutus*. A x was alſo drawn from cedar, with which they ared their books and writings, or other mat-, to preſerve them from rotting; which is al-ed to by Horace: by means of which it was t Numa's books, written on papyrus, were ſerved entire to the year 535, as we are infor-d by Pliny. Solomon's temple, as well as his uſe, were both of this wood. That prince e king Hiram ſeveral cities for the cedars he furniſhed him on theſe occaſions. Cortes is d to have erected a palace at Mexico, in which re 7000 beams of cedar, moſt of them 120 feet , and 12 in circumference, as we are informed Herrera. Some tell us of a cedar felled in Cy-s 130 feet long, and 18 in diameter. It was d for the main-maſt in the galley of king De-nus. Le Bruyn aſſures us, that the two bigg-ſt law on mount Lebanon meaſured, one of 57 palms, and the other 47, in circumfer-e. In the temple of Apollo at Utica, there cedar trees near 2000 years old; which yet e nothing to that beam in an oratory of Diana ſecuatum in Spain, ſaid to have been brought ſter 200 years before the deſtruction of Troy. ber is of ſo dry a nature, that it will not endure e faſtened with iron nails, from which it uſu-ſhrinks; ſo that they commonly faſten it with ut the ſame wood. Hanbury ſays, the wood ot obnoxious to worms; that its oil preſerves h and books from corruption, and that the duſt will even preſerve the human body from (See Cedar, § 1.) This tree is not found na-in any other part of the world but mount Li-s, as far as hath yet been diſcovered. What hud mentioned in Scripture of the lofty cedars be nowiſe applicable to the common growth his tree; ſince, from the experience we have hoſe now growing in England, as alſo from the mony of ſeveral travellers who have viſited e few remaining trees on mount Libanus, they not inclined to grow very lofty, but on the rary extend their branches very far; to which allufion made by the Pſalmiſt agrees very well, n he is deſcribing the flouriſhing ſtate of a peo-ple, and ſays, "They ſhall ſpread their branches like the cedar-tree."

5. Pinus larix, the *larch-tree*, which the old botaniſts ranked under larix, with deciduous leaves, and oval obtuſe cones. It grows naturally upon the Alps and Apennines, and of late has been very much propagated in Britain. It is of quick growth, and the trunk riſes to 50 feet or more; the branches are ſlender, their ends generally hanging down ward, and are garniſhed with long narrow leaves which ariſe in cluſters from one point, ſpreading open above like the hairs of a painter's bruſh; they are of a light green, and fall away in autumn In April the male flowers appear, which are diſpoſed in form of ſmall cones; the female flowers are collected into oval obtuſe cones, which in ſome ſpecies have bright purple tops, and, in others they are white: theſe differences are accidental; the cones are about an inch long, obtuſe at their points; the ſcales are ſmooth, and lie over each other: under each ſcale there are generally lodged two ſeeds, which have wings. There are other two varieties of this tree, one of which is a native of America, and the other of Siberia. The cones of the American kind which have been brought to Britain are in general larger than thoſe of the common ſort. In Switzerland their houſes are covered with boards of this wood cut out a foot ſquare; and, as it emits a reſinous ſubſtance, it ſo diffuſes itſelf into every joint and crevice, and becomes ſo compact and cloſe, as well as ſo hardened by the air, as to render the covering proof againſt all weather. But as ſuch covering for houſes would cauſe great devaſtation in caſe of fire, the buildings are confined to a limited diſtance. The wood, when firſt laid on the houſes, is ſaid to be very white; but this colour, in two or three years is changed, by means of the ſun and reſin, to a black, which appears like a ſmooth ſhining varniſh." Of the common larch there are ſeveral varieties. The flowers which it exhibits early in ſpring are of a delicate red colour; another ſort produces white flowers at the ſame ſeaſon, and theſe have a delightful effect among thoſe of the red ſort; whilſt another, called the *Black Newfoundland larix*, increaſes the variety, though by an aſpect little differing from the others. There are alſo larches with greeniſh flowers, pale red, &c. all of which are accidental varieties from ſeeds. Theſe varieties are eaſily diſtinguiſhed, even when out of blow: the young ſhoots of the white flowering larch are of the lighteſt green, and the cones when ripe are nearly white. The red flowering larch has its ſhoots of a reddiſh caſt, and the cones are of a brown colour; whilſt the cones and ſhoots of the black Newfoundland larch are in the ſame manner proportionally tinged. Their chief beauty conſiſts in the manner of their growth, the nature and beauty of their pencilled leaves and fair flowers; for the cones that ſucceed them are ſmall, of a whitiſh, a reddiſh, or a blackiſh brown colour, and make no figure. The pinus cedrus and pinus larix are propagated by ſowing in March on a bed of light earth expoſed to the morning ſun. The ſeed muſt be covered half an inch thick with fine light earth, and the beds watered at times when the weather is dry. In about ſix weeks the plants

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plants will appear; they must at this time be carefully guarded from the birds, shaded from the sun and winds, and kept very clear of weeds. In the latter end of April following, they may be removed into beds of fresh earth, placing them at ten inches distance every way. They are to be kept here two years, and such of them as seem to bend must be tied up to a stake to keep them upright. They may afterwards be planted in the places where they are to remain. They thrive well on the sides of barren hills, and make a very pretty figure there. Dr Pallas, in his *Flora Rossica*, informs us, that if this tree is burnt, and the wood confined, the internal part of the wood distills copiously a drying reddish gum, a little less glutinous than gum arabic, somewhat of a resinous taste, but wholly soluble in water. At the instigation of M. Kinder, this gum has lately been sold in the Russian shops under the name of *gummi Orenburgense*, but which our author thinks should be called *gummi uraliense loricis*. It is eat by the Woguli as a dainty, and is said to be nutritious and antiscorbutic. Some manna was gathered from the green leaves, but it could never be condensed. The Russians use the boletus laricinus as an emetic in intermittents, and to check the leucorrhœa. At Baschir and Siberia the inhabitants sprinkle the dry powder on the wounds of oxen and horses, as a detergent and anthelmintic. The nuts of the pinus cembra, the same author asserts, are eat as luxuries in Russia, and are even exported with the same view. The unripe cones give a very fragrant oil, termed balsamic. The inhabitants of Siberia use the tender tops, and even the bark rubbed off in the spring, as an antiscorbutic. The kernels of the nuts of the amygdalus nana give a very pleasing flavour to brandy; and, when pressed, afford a bitter oil in large quantities. The way of destroying the bitter is by digesting it in the sun with spirit of wine, and it then becomes sweet and extremely agreeable. From the larch-tree is extracted what we erroneously call *Venice turpentine*. This natural balsam flows at first without incision; when it has done dropping, the people make incisions at about 2 or 3 feet from the ground into the trunks of the trees, into which they fix narrow troughs about 20 inches long. The end of these troughs is hollowed like a ladle; and in the middle is a small hole bored for the turpentine to run into the receiver which is placed below it. As the gummy substance runs from the trees, it passes along the sloping gutter or trough to the ladle, and thence runs through the holes into the receiver. The people who gather it visit the trees morning and evening from the end of May to September, to collect the turpentine out of the receivers. When it flows out of the tree, Venice turpentine is clear like water, and of a yellowish white; but, as it grows older, it thickens and becomes of a citron colour. It is procured in the greatest abundance near Lyons, and in the valley of St Martin near St Lucern in Switzerland.

6. PINUS ORIENTALIS, the *oriental fir*, a native of the East, is a low but elegant tree. The leaves are very short, and nearly square. The fruit is exceeding small, and hangs downward; and the whole tree makes an agreeable variety with the other kinds.

7. PINUS PICEA, or yew-leaved fir, is a tall evergreen, and a native of Scotland, Sweden, and Germany. This species includes the *silver fir* and the *balm of Gilead fir*. The first of these is a noble upright tree. Mr Marsham says, "The tallest trees I have seen were spruce and silver firs in the valleys in Switzerland. I saw several firs in the dockyards in Venice 40 yards long; and one of 39 yards was 18 inches diameter at the small end. Is was told they came from Switzerland." The branches are not very numerous, and the bark is smooth and delicate. The leaves grow singly on the branches, and their ends are slightly indented. Their upper surface is of a fine bright green colour, and their under has an ornament of two white lines running lengthwise on each side the midrib; on account of which silver fir of this sort is called the SILVER FIR. The cones are large, and grow erect; and when the warm weather comes on, they soon shed their seeds. Those who with to raise this plant should therefore gather the cones before that happens. The *Balm of Gilead fir* has of all the sorts been most coveted, on account of the great fragrance of its leaves, though this is not its only good property: for it is a very beautiful tree, naturally of an upright growth, and the branches are so ornamented with their balmy leaves, as to exceed any of the other sorts in beauty. The leaves, which are very closely set on the branches, are broad; and their ends are indented. Their upper surface, when healthy, is of a fine dark-green colour, and their under has white lines on each side the midrib lengthwise nearly like those of the silver fir. These leaves when bruised are very finely scented; and the buds, which swell in the autumn for the next year's shoot, are very ornamental all winter, being turgid, and of a fine brown colour: and from these also exudes a kind of fine turpentine, of the same kind of (though heightened) fragrance. The tree being wounded in any part, emits plenty of this turpentine; and Hanbury says, "It is supposed by many to be the sort from whence the balm of Gilead is taken, which occasions the tree being so called. But this is a mistake: the true balm of Gilead is taken from a kind of TEREBINTHUS: though I am informed, that what has been collected from this tree has been sent over to England from America (where it grows naturally), and often sold in the shops for the true sort." The *silver fir* is very hardy, and will grow in any soil or situation, but always makes the greatest progress in rich loamy earth. The balm of Gilead fir must be planted in deep, rich, loamy earth; nor will it live long in any other. A soil may be a black mould, or of a sandy nature, if it be deep enough, and if the roots have room enough to strike freely.

8. PINUS PINEA, or stone pine, is a tall evergreen tree, native of Italy and Spain. It delights in a sandy loam, though like most others it will grow well in almost any land. Respecting the uses of this species, Hanbury tells us that "the kernels are eatable, and by many preferred to almonds. In Italy they are served up at the tables in their deserts.—They are exceeding wholesome, being good for coughs, colds, consumptions, &c. on which account only this tree deserves to be propagated."

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ɔpagated." Hanbury obſerves, "it is a great ſtake Mr Miller has committed, by ſaying, it ſeeds kept in the cones will be good and w if they are ſown 10 or 12 years after the es have been gathered from the trees; whereas ſeeds of this ſort, whether kept in the cones taken out, are never good after the firſt year."

1. PINUS PINEASTER, or wild pine, grows naally on the mountains in Italy and the S. of ace. It grows to the ſize of a large tree; the nches extend to a conſiderable diſtance; and le the trees are young, they are fully garniſhed h leaves, eſpecially where they are not ſo cloſe o exclude the air from thoſe within; but as y advance in age, the branches appear naked, all thoſe which are ſituated below become ghtly in a few years; for which reaſon they now much leſs in eſteem than formerly. From ſpecies is extracted the common TURPENE, much uſed by farriers, and from which is wn the oil of that name. The proceſs of makpitch, tar, refin, and turpentine, from theſe is very familiar. In ſpring when the ſap is ſt free in running, they pare off the bark of pine tree, to make the ſap run down into a which they cut at the bottom to receive it. he way, as it runs down, it leaves a white ter like cream, but a little thicker. This is different from all the kinds of reſin and turtine in uſe, and it is generally ſold to be uſed he making of flambeaux inſtead of white bees . The matter that is received in the hole at bottom is taken up with ladles, and put in a ge baſket. A great part of this immediately through, and this is the common turpentine. it is received into ſtone or earthen pots, and ady for ſale. The thicker matter, which remains in the baſket, they put into a common alic, adding a large quantity of water. They this as long as any oil is ſeen ſwimming uthe water. This oil they ſeparate from the ter in large quantities, and this is the common ſpirit of turpentine. The remaining matter the bottom of the ſtill is common yellow reſin. they have thus obtained all that they can the ſap of the tree, they cut it down, and, ing the wood into billets, they fill a pit dug e earth with theſe billets, and, ſetting them fire, there runs from them, while they are ning, a black thick matter. This naturally to the bottom of the pit, and this is the TAR. top of the pit is covered with tiles, to keep e heat; and there is at the bottom a little out at which the tar runs like oil. If this be made too large, it ſets the whole quantiof the tar on fire; but, if ſmall enough, it runs tly out. The tar, being thus made, is put arrels; and if it be to be made into pitch, put it into large boiling veſſels, without adany thing to it. It is then ſuffered to boil a e, and being then let out, is found when cold what we call pitch. A decoction of the or ſeeds of this ſpecies in milk, or of the exities of the branches pulled in ſpring, is with a proper regimen, to cure the moſt inrate ſcurvy. The wood of this ſpecies is not ed.

2. PINUS RUBRA, the *Scots fir* or *pine*. It is common throughout Scotland, whence its name; though it is alſo found in moſt of the other countries of Europe. M. Du Hamel, of the Royal Academy of Sciences, mentions his having received ſome ſeeds of it from St Domingo, and thence concludes, that it grows indifferently in the temperate, frigid, and torrid zones. The wood is the red or yellow deal, which is the moſt durable of any of the kinds yet known. The leaves are much ſhorter and broader than thoſe of the PINEA, (N° 8.) of a greyiſh colour, growing two out of one ſheath; the cones are ſmall, pyramidal, and end in narrow points; they are of a light colour, and the ſeeds are ſmall. The wood of the Scots pine is ſuperior to that of any other ſpecies. When planted in bogs, or in a moſt ſoil, though the plants make great progreſs, yet the wood is white, ſoft, and little eſteemed; but when planted in a dry ſoil, though the growth of the trees is there very ſlow, yet the wood is proportionably better. Few trees have been applied to more uſes than this. The talleſt and ſtraighteſt are formed by nature for maſts to our navy. The timber is reſinous, durable, and applicable to numberleſs domeſtic purpoſes, ſuch as flooring and wainſcotting of rooms, making of beds, cheſts, tables, boxes, &c. From the trunk and branches of this, as well as moſt others of the pine tribe tar and pitch is obtained. By inciſion, barras, BURGUNDY PITCH, and TURPENTINE, are acquired and prepared. The reſinous roots are dug out of the ground in many parts of the Highlands, and, being divided into ſmall ſplinters, are uſed by the inhabitants to burn inſtead of candles.—At Loch-Broom, in Roſs-ſhire, the fiſhermen make ropes of the inner bark; but hard neceſſity has taught the inhabitants of Sweden, Lapland, and Kamtſchatka, to convert the ſame into bread. To effect this, they, in the ſpring ſeaſon, make choice of the talleſt and faireſt trees; then ſtripping off carefully the outer bark, they collect the ſoft, white, ſucculent interior bark, and dry it in the ſhade. When they have occaſion to uſe it, they firſt toaſt it at the fire, then grind, and after ſteeping the flour in warm water to take off the reſinous taſte, they make it into thin cakes, which are baked for uſe. On this ſtrange food the poor inhabitants are ſometimes conſtrained to live for a whole year; and, we are told, through cuſtom, become at laſt even fond of it. Linnæus remarks, that this ſame bark bread will fatten ſwine; and humanity obliges us to wiſh, that men might never be reduced to the neceſſity of robbing them of ſuch a food. The interior bark of which the above mentioned bread is made, the Swediſh boys frequently peel off the trees in the ſpring, and eat raw with greedy appetite. From the cones of this tree is prepared a diuretic oil, like the oil of turpentine, and a reſinous extract, which has ſimilar virtues with the balſam of Peru. An infuſion or tea of the buds is highly commended as an antiſcorbutic. The farina, or yellow powder, of the male flowers, is ſometimes in the ſpring carried away by the winds, in ſuch quantities, where the trees abound, as to alarm the ignorant with the notion of its raining brimſtone. The tree lives to a great age; Linnæus affirms to 400 years.

11. PINUS STROBUS, *Lord Weymouth's pine*, or

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North American white pine. This grows sometimes to the height of 100 feet and upwards, and is highly valued on account of its beauty. The bark of the tree is very smooth and delicate, especially when young; the leaves are long and slender, five growing out of one sheath; the branches are pretty closely garnished with them, and make a fine appearance. The cones are long, slender, and very loose, opening with the first warmth of the spring; so that if they are not gathered in winter, the scales open and let out the seeds. The wood of this sort is esteemed for making masts for ships. In Queen Anne's time there was a law made for the preservation of these trees, and for the encouragement of their growth in America. Within these last 50 years they have been propagated in Britain in considerable plenty. The best soil for this species is a sandy loam, but inferior soils will answer.

12. PINUS TÆDA, the *swamp pine*, is a tall evergreen tree, a native of the swamps of Virginia and Canada. There are several varieties of this genus which Hanbury enumerates and describes: such as, 1st, *The three-leaved American swamp-pine.* 2d, The *two-leaved American pine.* 3d, The *yellow American pine*, the *yellow tough pine*, and the *tough pine of the plains*; among which there is but little variety. 4th, The *bastard pine.* 5th, The *frankincense pine.* And, 6th The *dwarf pine.*

(1.) PIN-YANG, a city of China, of the first rank, in Chansi; 337 miles SW. of Pekin. Lon. 128. 46. E. Ferro. Lat. 36. 6. N.

(2.) PIN-YANG, a town of China, in Tche-kiang, of the 3d rank; 20 miles S. of Ouen-tcheou.

PIN-YAO, a town of China, in Chan-si.

PIN-YUEN, a town of China, in Chan-tong.

PIOLEN, a town of France, in the dep. of the Drome, and ci-devant county of Venaissin; 3 miles NW. of Orange, and 21 S. of Montelimart.

(1.) PIOMBINO, a small principality of Tuscany or Etruria, on a gulf so named. (See N° 3.) The island of ELBA depends upon it.

(2.) PIOMBINO, a sea port town of Etruria, built on the ruins of the ancient POPULONIUM, capital of the above principality; seated on a peninsula and defended by a citadel; 33 miles SW. of Sienna, 40 S. of Leghorn, and 47 SSW. of Florence, or 60 according to Brookes. Lon. 10. 23. E. Lat. 42. 57. N.

(3.) PIOMBINO, GULF OF, a bay of the Mediterranean, on the coast of Etruria.

PION, a descendant of Hercules, who built PIONIA. *Paus.* ix. c. 18.

(1.) * PIONEER. *n. s.* [*pionier*, from *pion*, obsolete Fr. *pion*, according to *Scaliger*, comes from *peo* for *pedito*, a foot soldier, who was formerly employed in digging for the army. A *pioneer* is in Dutch, *spagenier*, from *spage*, a spade; whence *Junius* imagines that the French borrowed *pagenier*, which was afterwards called *pioneer.*] One whose business is to level the road, throw up works, or sink mines in military operations.—

Well said, old mole, can'st work i' th' ground so fast?
A worthy *pioneer!* *Shak. Hamlet.*

—These we call *pioneers* or miners. *Bacon.*—

His *pioneers*
Even the paths. *Fairfax.*

Of labouring *pioneers*
A multitude with spades and axes arm'd,
To lay hills plain. *Milton.*

—The Romans, after the death of Tiberius, sent thither an army of *pioneers* to demolish the buildings. *Addison.*

(2.) PIONEERS, in the art of war, are such as are commanded in from the country, to march with an army for the above purposes. These soldiers are likewise employed in all these services. Most of the foreign regiments of artillery have also a company of pioneers, well instructed in that important branch of duty. Our regiments of infantry and cavalry have 3 or 4 pioneers each, provided with aprons, hatchets, saws, spades, pickaxes, &c.

PIONIA, a town of Mysia, in Cayeus.

* PIONING. *n. s.* Works of pioneers. *Shak.*

PIONNAS, a town of France, in the dept. of the Creuse, 6 miles E. of Gueret.

PIONSAT, a town of France, in the dept. of Puy de Dome; 7½ miles SW. of Moutagis, and 23 NW. of Riom.

(1.) * PIONY. *n. s.* [*pæonia*, Latin.] A kind of flower. See PEONY.

(2.) PIONY. See PÆONIA, N° 2.

(1.) PIORIAS, a nation of N. American Indians, in the North-Western Territory, who inhabit the country near the Illinois. They have 150 warriors.

(2.) PIORIAS, another tribe of N. American Indians, who inhabit a village on the Mississippi, mile above fort Chartres; and have about warriors.

(3.) PIORIAS, a fort and village, in the North-Western Territory, on the W. bank of the Illinois, and S. end of Lake Illinois.

(4.) PIORIAS, or the *Wintering ground*, a tract of land in the North Western Territory, on the S. bank of the Illinois; 27 miles below the Pierre.

PIOSSASCO, a town of the imperial French republic, in the dept. of the Po, and ci-devant Piedmontese, 7 miles N. of Pignerolo, and WSW. of Turin.

(1.) PIOVE, or PIOVE DE SACCO, a district Maritime Austria, in the ci-devant Venetian territories, near the Dogado; containing 1 town, villages, and 38,400 souls, in 1797.

(2.) PIOVE, the capital of the above district contained 5100 inhabitants, in 1797.

* PIOUS. *adj.* [*pius*, Latin; *pieux*, Fr.]
1. Careful of the duties owed by creatures to God; godly; religious; such as is due to sacred things.—

Pious awe that fear'd to have offended.
Temper joy with fear
And *pious* sorrow.

2. Careful of the duties of near relation.—"not called a just father, that educates his children well, but *pious*. *Taylor's Rule.*—

Where was the martial brother's *pious* care

3. Practised under the appearance of religion.
All whom *pious* frauds have seduced. *K. Charles.*

* PIOU-

PIOUSLY. *adv.* [from *pious*.] In a pious manner; religiously; with such regard as is due to sacred things.—Set industriously and *piously* to the performance of that condition, on which the promise is made. *Hammond.*—

See lion-hearted Richard, with his force
Drawn from the North, to Jury's hallow'd plains;
Piously valiant. *Philips.*

This martial present *piously* design'd,
The loyal city give their best lov'd king. *Dryd.*

Let freedom never perish in your hands!
But *piously* transmit it to your children. *Cato.*

(1.) * PIP. *n. s.* [*pippe*, Dutch; *pepie*, French; deduced by *Skinner* from *pituita*; but probably coming from *pipio* or *pipilo*, on account of the complaining cry.] 1. A defluxion with which birds are troubled; a horny pellicle that grows on the tip of their tongues.—

When murrain reigns in hogs or sheep,
And chickens languish of the *pip*. *Hudibras.*

A spiteful vexatious gipsy died of the *pip*. *L'Estrange.* 2. A spot on the cards. I know not from what original, unless from *picti*, painting; in some country, the pictured or court cards are called *pips*.—When our women fill their imaginations with *pips* and counters, I cannot wonder at a new-born child, that was marked with the five clubs. *Addison.*

(2.) PIP, or PEP, (§ 1. *def.* 1.) a disease among poultry, consisting of a white thin skin, or film, that grows under the tip of the tongue, and hinders their feeding. It usually arises from want of water, or from the drinking puddle-water; or eating filthy meat. It is cured by pulling off the skin with the fingers, and rubbing the tongue with salt. Hawks are particularly liable to this disease, especially from feeding on stinking flesh.

* *To* PIP. *v. a.* [*pipio*, Lat.] To chirp or cry as a bird.—It is no unfrequent thing to hear the chick *pip* and cry in the egg, before the shell be broken. *Boyle.*

PIPA, in law. See PIPE, § 3.

(2.) * PIPE. *n. s.* [*pib*, Welsh; *pipe*, Sax.] 1. Any long hollow body; a tube.—

When we've stuff'd
These *pipes* and these conveyances of blood
With wine and feeding, we have suppler souls. *Shak.*

The part of the *pipe*, which was lowermost, will become higher. *Wilkins.*—It has many springs, and vast quantities of wood to make *pipes* of. *Addison.*—The nearer it is to its original, the more pith it hath. *Arbuthnot.* 2. A tube of clay thro' which the fume of tobacco is drawn into the mouth.—Try the taking of fumes by *pipes*, as in tobacco and other things, to dry and comfort. *Bacon.*—

His ancient *pipe* in sable dy'd,
And half unsmoak'd lay by his side. *Swift.*

My husband's a sot,
With his *pipe* and his pot. *Swift.*

An instrument of wind musick.—Now had he her hear the taber and the *pipe*. *Shak.*—

The solemn *pipe* and dulcimer. *Milton.*

Then the shrill sound of a small rural *pipe*,
Was entertainment for the infant stage. *Roscom.*

There is no reason, why the sound of a *pipe* should leave traces in their brains. *Locke.* 4. The organs of voice and respiration; as, the wind-*pipe*.—The exercise of singing openeth the breast and *pipes*. *Peacham.* 5. The key or sound of the voice.—

My throat of war be turn'd,
Which quired with my drum, into a *pipe*
Small as an eunuch. *Shak.*

6. An office of the exchequer.—That office of her majesty's exchequer, we, by a metaphor, call the *pipe*, because the whole receipt is finally conveyed into it by the means of divers small *pipes* or quills, as water into a cistern. *Bacon.* 7. [*Pipe*, Dutch; *pipe*, Fr.] A liquid measure containing two hogsheads.—I think I shall drink in *pipe* wine with Falstaff; I'll make him dance. *Shak.*

(2.) PIPE, in building, &c. a canal, or conduit, for the conveyance of water and other liquids. Pipes for water, water-engines, &c. are usually of lead, iron, earth, or wood: the latter are usually made of oak or elder. Those of iron are cast in forges; their usual length is about 2½ feet: several of these are commonly fastened together by means of four screws at each end, with leather or old hat between them, to stop the water. Those of earth are made by the potters; these are fitted into one another, one end being always made wider than the other. To join them the closer, and prevent them breaking, they are covered with tow and pitch: their length is usually that of the iron pipes. The wooden pipes are trees bored with large iron augres, of different sizes, beginning with a less, and then proceeding with a larger successively; the first being pointed, the rest being formed like spoons, increasing in diameter, from one to six inches or more: they are fitted into the extremities of each other, and are fold by the foot. For the construction of leaden pipes, see PLUMBERY.

(3.) PIPE, PIPA, in law, is a roll in the exchequer, called also the *great roll*. See § 10.

(4.) PIPE, in mining, is where the ore runs forwards endwise in a hole, and doth not sink downwards or in a vein.

(5.) PIPE. (§ 1. *def.* 7.) See BARREL and MEASURE.

(6.) PIPE, AIR. See AIR-PIPES.

(7.) PIPE, BAG. See BAG-PIPES, § 1—5.

(8.) PIPE, CLERK OF THE. See CLERK, § 23.

(9.) PIPE FISH. See SYNGNATHUS.

(10.) PIPE, HORN. See HORN-PIPE.

(11.) PIPE OFFICE is an office wherein the officer called the *clerk of the pipe*, makes out leases of crown lands, by warrant from the lord treasurer, or commissioners of the treasury, or chancellor of the exchequer. (See CLERK, § 23.) To this office are brought all accounts which pass the remembrancer's office, and remain there. All tallies which vouch the payment of any sum contained in such accounts are examined and allowed by the chief secondary of the pipe. Besides the chief clerk in this office, there are eight attorneys or sworn clerks, and a comptroller.

(12.) PIPES OF AN ORGAN. See ORGAN, § 7.

(13.) PIPES, SEA, in zoology, are univalve shells, of an oblong figure, terminating in a point, sometimes a little bending, and sometimes straight. Sea ears, figures of which we have given along with sea-pipes, are also univalve flat shells, resembling

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bling in ſhape the ear of a man. In ſea ears it is not uncommon to find ſmall pearls, the ſeeds of which are often found in the middle of their cavities, which are of the fineſt naker or mother-of-pearl colour. There are ridges on both ſides; thoſe without form a kind of volute or ſpire, terminating in an eye. In theſe ſhells there is a row of round holes, ſix of which generally go quite through. There is a ſhell of this kind, which is longer in proportion to its width, and much leſs common, for it is never found in our ſeas. There is another, very fine and thin, of a dirty grey colour, neither nakered nor perforated as the others are; the inner rim is ſpiral, and at ſome diſtance from the outer. The ſea pipes are diſtinguiſhed from ſea worms by having their pipes ſingle; whereas the others form an aſſemblage of pipes joined together. The ſea worms, from the number and junction of their parts, are multivalves. The ſhells of pipes called *dentales* and *antales* are diſtinguiſhed from each other only by their ſize, the antales being much the leaſt. The *ſea-pencil*, or *watering-ſpout*, is the moſt remarkable ſhell of this tribe, and muſt be conſidered as having a ſpecific character either by its form, which is ſtraight, or the ſingularity of its ſuperior extremity, which is perforated like the ſpout of a watering pot. In *Plate* CCLXXIV. the ſhell, *fig.* 1. pierced with many holes, is found with its natural covering in our ſeas. It is finely nakered within, and in the middle of its hollow or cavity contains many ſmall pearls. *Fig.* 2. is placed on its upper ſide to ſhow its ſpots, which are red upon a ground of the pureſt white; the ridges are prominent; the rim and the eye are irregular and notched. *Fig.* 4. the ſingularity of this ſhell conſiſts in its being neither nakered nor perforated, and in turning very much up near the eye of its ſpire or contour. *Fig.* 5. is a pencil or watering ſpout; at the head is a kind of ruff, and within it is formed like the end of a watering ſpout, perforated with many holes, which, when the fiſh is alive, are filled with very fine threads, like the hairs of a painter's pencil. *Fig.* 6. are called dentals from their reſemblance of elephants teeth; the point or apex is white, and the other extremity green. They are both ribbed and nakered, and are diſtinguiſhed from each other only by ſome excreſcences which appear on the uppermoſt. *Fig.* 7. are two ſmall ſhells of the dental figure, called for diſtinction antales. They are perfectly ſmooth; one is white, and the other reddiſh.

(14.) PIPE, TOBACCO. See TOBACCO PIPE.

* *To* PIPE. *v. n.* [from the noun.] 1. To play on the pipe.—Merry Michael the Corniſh poet *piped* thus upon his oaten pipe for merry England. *Camden.*—We have *piped* to you, and you have not danced. *Matth.*—

In ſinging, as in *piping*, you excel. *Dryden.*
Lowing herds, and *piping* ſwains,
Come dancing to me. *Swift.*

2. To have a ſhrill ſound.—

His big manly voice,
Turning again toward childiſh treble, *pipes*
And whiſtles in his ſound. *Shak.*

(I.) * PIPER. *n. ſ.* [from *pipe.*] One who plays on the pipe.—*Pipers* and trumpeters ſhall be heard no more in thee. *Revelations.*

(II.) PIPER, Francis LE, an eminent Engliſh painter, the ſon of a gentleman in Kent, deſcended from a Walloon family. His father gave him a liberal education, but his genius led him to painting, in which he had a peculiar talent, for he needed but to ſee a face once, whereby he would paint as exact a likeneſs, as if the perſon had ſat often for it. He alſo painted landſcapes well; but he delighted in painting faces peculiarly ſtriking or ugly. He likewiſe modelled figures in wax to the life. In his travels he was equally whimſical. He often ſet out on a tour through France, the Netherlands, Germany, and even Egypt, without taking leave of his friends, or warning them of his return. He died at Aldermanbury in 1740, in conſequence of his ſurgeon pricking an artery, when bleeding him.

(III.) PIPER, in ichthyology. See TRIGLA, V.

(IV.) PIPER, in botany, PEPPER; a genus of the trigynia order, belonging to the diandria claſs of plants; and ranking, in the natural method, under the 2d order *Piperitæ*. There are 20 ſpecies; the moſt remarkable are theſe:

1. PIPER AMALAGO, or *black pepper*, and the PIPER INEQUALE, with ſome other ſpecies, are indigenous, and named *joint wood*, or *peppery-ſiders*. The firſt bears a ſmall ſpike, on which are attached a number of ſmall ſeeds of the ſize of muſtard. The whole plant has the exact taſte of the Eaſt India black pepper.

2. PIPER BETELUM, the BETEL, or *Betle*, is a creeping and climbing plant like the ivy; and its leaves a good deal reſemble thoſe of the vine, though they are longer and narrower at the extremity. It grows in all parts of India, but thrives beſt in moiſt places. The natives cultivate it like the vine, placing props for it to climb upon; and it is a common practice to plant it againſt the tree which bears the areca nut. At all times of the day, and even in the night, the Indians chew the leaves of the betel, the bitterneſs of which is corrected by the areca that is wrapped up in them. There is conſtantly mixed with it the *chinam*, a kind of burnt lime made of ſhells. The rich frequently add perfumes, either to gratify their vanity, or their ſenſuality; as it is a powerful incentive to love. Betel is taken after meals; it is chewed during a viſit; it is offered when you meet, and when you ſeparate; in ſhort, nothing is to be done without betel. If it is prejudicial to the teeth, it aſſiſts and ſtrengthens the ſtomach. At leaſt, it is a general faſhion that prevails throughout India.

3. PIPER INEQUALE, the *long pepper of Jamaica*. The buſh grows taller than the amalago. The leaves are broad, ſmooth, and ſhining. The fruit is ſimilar to the long pepper of the ſhops, but ſmaller. The common people in Jamaica ſeaſon their meſſes with the black pepper. To preſerve both, the fruit may be ſlightly ſcalded when green, then dried, and wrapped in paper.

4. PIPER SIRIBOA, with oval, heart-ſhaped nerved leaves, and reflexed ſpikes. This is the plant which produces the pepper uſed in food. It is a ſhrub whoſe root is ſmall, fibrous, and flexible; it riſes into a ſtem, which requires a tree or a prop to ſupport it. Its wood has the ſame ſort of knots as the vine; and when it is dry, it exactly reſembles the vine branch. The leaves, when

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ve a ſtrong ſmell and a pungent taſte, are of an al ſhape; but they diminiſh towards the extre- ty, and terminate in a point. From the flower ds, which are white, and are ſometimes placed the middle and ſometimes at the extremity of branches, are produced ſmall berries reſembling ſe of the currant tree. Each of theſe contains ween 20 and 30 corns of pepper; they are nmonly gathered in October, and expoſed to ſun 7 or 8 days. The fruit, which was green irſt and afterwards red, when ſtripped of its tring aſſumes the appearance it has when we it. The largeſt, heavieſt, and leaſt ſhrivelled, e beſt. The pepper plant flouriſhes in the ds of Java, Sumatra, and Ceylon, and more icularly on the Malabar coaſt. It is not ſown planted; and great nicety is required in the ice of the ſhoots. It produces no fruit till the of 3 years; but bears ſo plentifully the 3 ſuc- ling years, that ſome plants yield between 6 7 lb. of pepper. The bark then begins to ik; and the ſhrub declines ſo faſt, that in 12 it ceaſes bearing. The culture of pepper is difficult: it is ſufficient to plant it in a rich and carefully to pull up the weeds that grow reat abundance round its roots, eſpecially the ſt years. As the ſun is highly neceſſary to growth of the pepper plant, when it is ready ear, the trees that ſupport it muſt be lopped prevent their ſhade from injuring the fruit. en the ſeaſon is over, it is proper to crop the of the plant. Without this precaution, there uld be too much wood, and little fruit. See account of the method of cultivating pep- in Sumatra, in Mr *Marſden's Hiſtory of Suma- or New Annual Regiſter*, 1783, p. 147. The per exported from Malabar, which was for- y entirely in the hands of the Portugueſe, is at preſent divided between the Dutch, Bri- and French, amounts to about 10,000,000 lbs.

PERIDGE BUSH. See BERBERIS.

PERITÆ. See BOTANY, *Index*.

PERNO, a town and biſhop's ſee of Italy, the Campagna of Rome: on a mountain, near Pontine marſhes; 9 miles NNW. of Terraci- and 38 SE. of Rome, according to Mr Crutt- but 50, ſays Dr Brookes. Lon. 13. 36. E. 41. 39. N.

* PIPETREE. *n. ſ.* The lilac tree.

PIPE TREE, in botany. See SYRINGA.

PIPE TREE, PUDDING, a ſpecies of CASSIA.

PING. *adj.* [from *pipe*. This word is uſed in low language.] 1. Weak; feeble; ſickly: the weak voice of the ſick.—

, in this weak *piping* time of peace,
we no delight to paſs away the time. *Shak.*

t; boiling: from the ſound of any thing boils.

ING TREE, a town of Virginia, 9 miles E. twcaſtle.

PKIN. *n. ſ.* [diminutive of *pipe*, a large veſ- A ſmall earthen boiler.—

A *pipkin* there like Homer's tripod walks. *Pope.*

Some officer might give conſent
a large cover'd *pipkin* in his tent. *King.*

PIPLEY, a town of Hindooſtan, in Bengal, e banks of a river, and borders of Oriſſa, 15 miles NE. of Balaſore. It was formerly a place of trade, and had Britiſh and Dutch factories; but is now declined, and chiefly inhabited by fiſhermen. Lon. 86. 21. E. Lat. 21. 20. N.

(2, 3.) PIPLEY, other two towns of Indoſtan: 1. in Berar, 18 miles N. of Jaffierabad: 2. in Baglana, 6 miles NW. of Bahbelgong.

(1.) * PIPPIN. *n. ſ.* [*puppynghe*, Dutch. *Skinner.*] A ſharp apple.—*Pippins* take their name from the ſmall ſpots or pips that uſually appear on the ſides of them: ſome are called ſtone *pippins* from their obdurateneſs; ſome Kentiſh *pippins*, becauſe they agree well with that ſoil; others French *pippins*, having their original from France, which is the beſt bearer of any of theſe *pippins*; the Holland *pippin* and the ruſſet *pippin*, from its ruſſet hue; but ſuch as are diſtinguiſhed by the names of grey and white *pippins* are of equal goodneſs: they are generally a very pleaſant fruit and of good juice, but ſlender bearers. *Mortimer.*—We will eat a laſt year's *pippin* of my own graffing. *Shak.*—Entertain yourſelf with a *pippin* roaſted. *Harvey.*—The *pippin*-woman, I look upon as fabulous. *Addiſon.*—

His foaming tuſks let ſome large *pippin* grace. *King.*

This *pippin* ſhall another trial make. *Gay.*

(2.) PIPPIN, or PIPPEN. See PYRUS, N° 4.

PIPRA, in ornithology; a genus of birds of the order of *paſſeres*. Latham gives it the name of *manakin*, and ſo does Buffon, who informs us that it was beſtowed upon them by the Dutch ſettlers in Surinam. Latham deſcribes 25 different ſpecies, and 5 varieties. The general character is, that the bill is ſhort, ſtrong, hard, and ſlightly incurvated, and the noſtrils are naked. The middle toe is connected to the outer as far as the third joint: this character, however, is not univerſal, ſome ſpecies differing in this particular. The tail is ſhort. This genus has a conſiderable reſemblance to the genus *parus*, or titmouſe. They are ſuppoſed to inhabit South America only, but Mr Latham has ſeen many of thoſe ſpecies which he has deſcribed, that came from other parts, which certainly belong to this genus.—Buffon differs widely in his arrangement from him, and only enumerates ſix ſpecies. Buffon gives the following account of the genus in general: "The natural habits common to them all were not known, and the obſervations which have been made are ſtill inſufficient to admit an exact detail. We ſhall only relate the remarks communicated to us by Sonnini of Manoncour, who ſaw many of theſe birds in their native climates. They inhabit the immenſe foreſts in the warm parts of America, and never emerge from their receſſes to viſit the cleared grounds or the vicinity of the plantations. They fly with conſiderable ſwiftneſs, but always at a ſmall height, and to ſhort diſtances; they never perch on the ſummits of trees, but on the middle branches; they feed upon ſmall wild fruits, and alſo eat inſects. They generally occur in ſmall bodies of 8 or 10 of the ſame ſpecies, and ſometimes intermingled with other flocks of the ſame genus, or even of a different genus, ſuch as the Cayenne warblers, &c. It is commonly in the morning that they are found thus aſſembled, and then

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ſeem to be joyous, and warble their delicate little notes. The freſhneſs of the air ſeems to inſpire the ſong, for they are ſilent during the burning heat of the day, and diſperſe and retire to the ſhade of the thickeſt parts of the foreſt. This habit is obſerved, indeed, in many kinds of birds, and even in thoſe of the woods of France, where they collect to ſing in the morning and evening; but the manakins never aſſemble in the evening, and continue together only from ſun-riſe to 9 or 10 o'clock A. M. and remain ſeparate during the reſt of the day and the ſucceeding night. In general they prefer a cool humid ſituation, though they never frequent marſhes or the margins of lakes."

1. PIPRA MUSICALIS, or, as Mr Latham calls it, the *tuneful manakin*. Its length is 4 inches; the bill is duſky, the forehead yellow, and the crown and nape blue; the chin, ſides of the head below the eyes, and the throat, are black; the upper part of the back, the wings, and the tail, are duſky black; the tail is very ſhort; the lower part of the back and rump, the breaſt, belly, vent, and thighs, are orange coloured; the legs are duſky. It is a native of St Domingo, where it has gained the name of *organiſte* from its note, forming the complete octave in the moſt agreeable manner, one note ſucceſſively after another. It is ſaid not to be uncommon, but not eaſy to be ſhot, as, like the creeper, it perpetually ſhifts to the oppoſite part of the branch from the ſpectator's eye, ſo as to elude his vigilance. It is moſt likely the very bird mentioned by Du Pratz, above quoted, whoſe notes, he ſays, are ſo varied and ſweet, and which warbles ſo tenderly, that thoſe who have heard it value much leſs the ſong of the nightingale. It is ſaid to ſing for near two hours without ſcarce taking breath, and, after a reſpite of about the ſame time, begins again. Du Pratz, who himſelf has heard it, ſays that it ſung perched on an oak, near the houſe he was then in.

2. PIPRA RUFRICOLA, the *creſted manakin*, is about the ſize of a ſmall pigeon, being about 10 or 12 inches long. The bill is about an inch and a quarter long, and of a yelloviſh colour. The head is furniſhed with a double round creſt; the general colour of the plumage is orange, inclining to ſaffron; the wing coverts are looſe and fringed; the quills are partly white and partly brown; the tail feathers are 12; the baſe half of the ten middle ones is of an orange colour; thence to the ends they are brown; the outer feathers are brown, and the baſe half of the inner web is orange; all are ſimilarly fringed; the upper tail coverts are very long, looſely webbed, and ſquare at the ends; the legs and claws are yellow. The female is altogether brown, except the under wing coverts, which are of a rufous orange; the creſt is neither ſo complete nor rounded as that of the male. Both males and females are at firſt grey, or of a very pale yellow, inclining to brown. The male does not acquire the orange colour till the 2d year, neither does the female the full brown. "This beautiful ſpecies (ſays Latham), inhabits various parts of Surinam, Cayenne, and Guiana, in rocky ſituations; but is nowhere ſo frequent as in the mountain Luca, near the river Oyapoc, and in the mountain Couronaye, near the river Aproniack, where they build in the cavernous hollows, and the darkeſt receſſes. They lay two round white eggs, the ſize of thoſe of a pigeon, and make the neſt of a few dry bits of ſticks. They are in general very ſhy, but have been frequently tamed, inſomuch as to run at large among the poultry. It is ſaid that the female, after ſhe has laid eggs for ſome years, and ceaſes ſo to do more, becomes at the enſuing moult of the ſame colour as the male, and may be miſtaken for him; in this imitating the females of various kinds of poultry, ſuch as the peacock, pheaſant, &c. (See Pavo, &c.) A moſt complete pair is in the Leverian Muſeum." Our author deſcribes a variety of this ſpecies, which he calls the *Peruvian manakin*. It is longer than the preceding, eſpecially in the tail, and the upper coverts of it are not truncated at the ends; the wing coverts are not fringed as in the rock manakin, and the creſt is not ſo widely ſined as in that bird; the general colour of the plumage inclines much to red; the ſecond coverts and rump are of an aſh colour; the wings and tail are black; the bill and legs are as in the laſt deſcribed. It is an inhabitant of Peru, from whence its name.

PIPRIAC, a town of France, in the dept. of Ille and Vilaine; 10½ miles N. of Redon, and 19 W. of Bain.

* PIQUANCY. *n. ſ.* [from *piquant*.] Sharpneſs, tartneſs.

* PIQUANT. *adj.* [*piquant*, Fr.] 1. Pricking; piercing; ſtimulating to the taſte.—As ſpices to the tongue as ſalt. *Addiſon*. 2. Sharp; tart; pungent; ſevere.—Some think their wits abſurd, except they dart out ſomewhat that is *piquant*, and to the quick: *Bacon*.—Men make their railings as *piquant* as they can. *Gov. of the Tongue*.

* PIQUANTLY. *adv.* [from *piquant*.] Sharply; tartly.—A ſmall miſtake may leave upon the mind the memory of having been *piquantly* and wittily taunted. *Locke*.

(1.) * PIQUE. *n. ſ.* [*pique*, F.] 1. An ill will, an offence taken; petty malevolence.—He had never any the leaſt *pique*, difference or jealouſy with the king his father. *Bacon's Henry VIII*.—Men take up *piques* and diſpleaſures at others. *Decay of Piety*.—Out of a perſonal *pique* to the king in ſervice, he ſtands as a looker-on, when the government is attacked. *Addiſon*. 2. A ſtrong paſſion.—

Though he have the *pique*, and long,
'Tis ſtill for ſomething in the wrong. *Hudibras*.

3. Point; nicety; punctilio.—

Add long preſcription of eſtabliſh'd laws,
And *pique* of honour to maintain a cauſe. *Dryden*.

(1.) PIQUE, in entomology. See NIGUA, No 1.

(3.) PIQUE, or PIQUE MONTVALLIER, in geography, the higheſt mountain among the PYRENEES. It is in the form of a peak, and is ſeen 50 miles diſtant. Lon. 0. 22. W. Lat. 42. 42.

* *To* PIQUE. *v. a.* [*piquer*, Fr.] 1. To affect with envy or virulency; to put into fret, to irritate to emulation.—

Piqu'd by Protogenes's fame,
From Co to Rhodes Apelles came. *Prior*.

2. To offend; to irritate.—

Why *pique* all mortals that affect a muſe?

—The lady was *piqued* by her indifference.

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ixote. 3. [With the reciprocal pronoun.] To ue; to fix reputation as on a point. [*se piquer*, nch.]—Children, having made it eaſy to part h what they have, may *pique themſelves* in being d. *Locke.*—Men apply themſelves to two or e foreign, dead, and which are called the learn- languages; and *pique themſelves* upon their l in them. *Locke on Education.*

* *To* PIQUEER. *v. a.* See PICKEER.

* PICQUEERER. *n. ſ.* A robber: a plunderer. ther *pickeerer*.—The guardian would ſoon be onded by ſome other *picqueerers* from the ſame ap. *Swift.*

1.) * PIQUET. *n. ſ.* [*picquet*, Fr.] A game at ds.—

She commonly went up at ten,
Unleſs *piquet* was in the way. *Prior.*

Inſtead of entertaining themſelves at ombre or ut, they would wreſtle and pitch the bar, *Stator.*

2.) PIQUET, or PICKET, a game is much in uſe oughout the polite world. It is played be- een two perſons, with only 32 cards; all the es, threes, fours, fives, and ſixes, being ſet a- . In reckoning at this game every card goes the number it bears, as a ten for ten; only all rt cards go for ten, and the ace for eleven; l the uſual game is 100 up. In playing, the wins the king, the king, the queen, and ſo on. Twelve cards are dealt round, uſually by o and two; which done, the remainder are in the middle: if one of the gameſters finds that not a court-card in his hand, he is to de- are he has *carte blanche*, and tell how many ds he will lay out, and deſire the other to diſ- rd, that he may ſhow his game, and ſatisfy his tagoniſt that the carte-blanche is real; for ich he reckons ten. Each perſon diſcards, *i. e.* s aſide a certain number of his cards, and takes a like number from the ſtock. The firſt of the ſt cards may take three, four, or five; the er all the remainder, if he pleaſes. After diſ- ing, the eldeſt hand examines what ſuit he has rards of; and reckoning how many points in that ſuit, if the other have not ſo many at or any other ſuit, he tells one for every of that ſuit. He who thus reckons moſt is d to win the point. The point being over, ch examines what *ſequences* he has of the ſame t, viz. how many tierces, or ſequences of three, artes or fours, quintes or fives, ſixiemes, or ſix's . For a tierce they reckon three points, for a arte four, for a quinte 15, for a ſixieme 16, &c. d the ſeveral ſequences are diſtinguiſhed in nity by the cards they begin from; thus ace ng, and queen are called *tierce major*: king, een, and knave, *tierce to a king*; knave, ten, d nine, *tierce to a knave*, &c. and the beſt tierce, arte, or quinte, *i. e.* that which takes its deſ- nt from the beſt card, prevails, ſo as to make l the others in that hand good, and deſtroy all oſe in the other hand. In like manner, a quarte one hand ſets aſide a tierce in the other. The ſequences over, they proceed to examine how any aces, kings, queens, knaves, and tens, each olds; reckoning for every three of any ſort, hree: but here too, as in ſequences, he that with he ſame number of threes has one that is higher than any the other has, *e. gr.* three aces, has all his others made good hereby, and his adverſary's all ſet aſide. But four of any ſort, which is called a *quatorze*, always ſets aſide three. All the game in hand being thus reckoned, the eldeſt proceeds to play, reckoning one for every card he plays above a nine, and the other follows him in the ſuit; and the higheſt card of the ſuit wins the trick. Note, unleſs a trick be won with a card above a nine (except the laſt trick), nothing is reckoned for it: though the trick ſerves afterwards towards winning the cards; and that he who plays laſt does not reckon for his cards unleſs he wins the trick. The cards being played out, he that has moſt tricks reckons ten for winning the cards. If they have tricks alike, neither reckons any thing. The deal being finiſhed, and each having marked up his game, they proceed to deal again as before, cutting afreſh each time for the deal. If both parties be within a few points of being up, the carte blanche is the firſt thing that reckons, then the point, then the ſequences, then the quatorzes or threes, then the tenth cards. He that can reckon 30 in hand by carte blanche, points, quintes, &c. without playing, ere the other has reckoned any thing, reckons 90 for them; and this is called a *repique*. If he reckons above 30, he reckons ſo many above 90. If he can make up 30, part in hand and part play, ere the other has told any thing, he reckons for them 60. And this is called a *pique*; whence the name of the game. He that wins all the tricks, inſtead of ten, which is his right for winning the cards, reckons 40. And this is called a *capot*.

(3.) PIQUETS, in artillery, &c. See PICKET.

(4.) PIQUETS, in botany, a ſpecies of DIANTHUS.

(I.) PIRA, in geography, a town of Germany, in Auſtria; 6 miles SSE. of Polten.

(II.) PIRA, in ichthyology, a name given to a variety of foreign fiſhes:

1. PIRA ACA, a little horned fiſh of the Weſt Indies, called by Cluſius and others, MONOCEROS.

2. PIRA ACANGATA, a Braſilian fiſh, which reſembles the perch in ſize and ſhape; but ſeldom exceeds 4 or 5 inches in length; its mouth is ſmall; its tail forked. On the back it has only one long fin, ſupported by rigid and prickly ſpines. This fin it can depreſs at pleaſure, and ſink within a cavity made for it in the back. Its ſcales are of a ſilvery white colour; it is wholeſome and well taſted.

3. PIRA BEBE, the milvus, or kite-fiſh.

4. PIRA COABA, an American fiſh of the truttaceous kind, of a very delicate flavour. It grows to 12 inches: its noſe is pointed, and its mouth large, but without teeth; the upper jaw is longer than the under one, and hangs over like a cartilaginous prominence; its eyes are very large, and its tail is forked; under each of the gill fins there is a beard of ſix white filaments, covered with ſilvery ſcales.

5. PIRA JURUMENBECA, a Braſilian fiſh, otherwiſe called *bocca molle*. It lives in the muddy bottom of the American ſeas, and is a long bodied, not flatted fiſh. It grows to a great ſize, being found 9, ſometimes even 10 or 11 feet long, and

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and 2½ feet thick. It has one long fin on the back, the anterior part of which is thin and pellucid. There is also a cavity on the back, as in the pira acangata, into which the fin can be depressed at pleasure; the tail is not forked, and the scales are all of a silvery colour and brightness. The fish is very well tasted.

6. PIRA PIRANHA, an American fish, more generally known by the name *piraya*.

7. PIRA PIRAQUIBA, or *Ipiraquiba*, a fish originally Brasilian, which some writers apply to the *remora*, or *sucking fish*.

8. PIRA PIXANGA, another Brasilian fish of the turdus or wrasse kind, called by some the *gatavitch*. It is generally about 4 or 5 inches long; its mouth is pretty large, and furnished with very small, and very sharp teeth; its head is small, but its eyes are large and prominent, the pupil being of a fine turquoise colour, and the iris yellow and red in a variety of shades. The coverings of the gills end in a triangular figure, and are terminated by a short spine or prickle; its scales are very small, and so evenly arranged, and closely laid on the flesh, that it is very smooth to the touch; its tail is rounded at the end; its whole body, head, tail, and fins, are of a pale yellow colour, variegated all over with very beautiful blood-coloured spots; these are round, and of the bigness of hemp seed on the back and sides, and something larger on the belly; the fins are all spotted in the same manner, and are all marked with an edge of red. It is caught among the rocks, and about the shores, and is a very well tasted fish.

(1.) * PIRACY. *n. s.* [πειρατεία; *piratica*, Lat. *piraterie*, Fr. from *pirate*.] The act or practice of robbing on the sea.—Our gallants, in their fresh gale of fortune, began to skim the seas with their *piracies*. *Carew.*—

Now shall the ocean, as thy Thames, be free,
From both those fates of storms and *piracy*.
Waller.

Sounding your name, and telling dreadful news
To all that *piracy* and rapine use. *Waller.*

—His pretence for making war upon his neighbours was their *piracies*; though he practised the same trade. *Arbuthnot.*

(2.) PIRACY, by the ancient common law, if committed by a subject, was held to be a species of treason, being contrary to his natural allegiance; and by an alien, to be felony only: but now, since the statute of treasons, 25 Edw. III. c. 2. it is held to be only felony in a subject. Formerly it was only cognizable by the admiralty courts, which proceed by the rules of the civil law. But, it being inconsistent with the liberties of the nation, that any man's life should be taken away, unless by the judgment of his peers, or the common law of the land, the statute 28 Hen. VIII. c. 15. established a new jurisdiction for this purpose; which proceeds according to the course of the common law. This offence, by common law, consists in committing those acts of robbery and depredation upon the high seas, which, if committed upon land, would have amounted to felony there. But, by statute, some other offences are made piracy also: as, by statute 11 and 12 W. III. c. 7. if any natural born subject commits any act of hostility upon the high seas, against others of his majesty's subjects, under colour of a commission from any foreign power, this, though it would only be an act of war in an alien, shall be construed piracy in a subject. And farther, any commander, or other seafaring person, betraying his trust, and running away with any ship, boat, ordnance, ammunition, or goods; or yielding them up voluntarily to a pirate; or conspiring to do these acts; or any person assaulting the commander of a vessel, to hinder him from fighting in defence of his ship; or confining him, or causing or endeavouring to cause a revolt on board; shall, for each of these offences, be adjudged a pirate, felon, and robber, and shall suffer death, whether he be principal, or merely accessory by setting forth such pirates, or betting them before the fact, or receiving or concealing them or their goods after it. And the stat. 4 Geo. I. c. 11. expressly excludes the principals from the benefit of clergy. By the stat. 8 Geo. I. c. 24. the trading with known pirates, or furnishing them with ammunition, or fitting out any vessel for that purpose, or in anywise consulting, combining, confederating, or corresponding with them; or the forcibly boarding any merchant vessel, though without seizing or carrying her off, and destroying or throwing any of the goods overboard; shall be deemed piracy: and such accessories to piracy as are described by the statute of king William are declared to be principal pirates; and all pirates convicted by virtue of this act are made felons without benefit of clergy. By the same statutes also, (to encourage the defence of merchant vessels against pirates,) the commanders or seamen wounded, and the widows of such seamen as are slain, in any piratical engagement, shall be entitled to a bounty to be divided among them, not exceeding one fiftieth part of the value of the cargo on board: and such wounded seamen shall be entitled to the pension of Greenwich hospital; which no other seamen are, except only such as have served in a ship of war. And if the commander shall behave cowardly, by not defending the ship, if she carries guns or arms; or shall discharge the mariners from fighting, so that the ship falls into the hands of pirates; such commander shall forfeit all his wages, and suffer six months imprisonment. Lastly, by statute 11 Geo. II. c. 30. any natural born subject or denizen, who in time of war shall commit hostilities at sea against any of his fellow-subjects, or shall assist an enemy on that element, is liable to be tried and convicted as a pirate.

PIRÆUS, or PORTUS, in ancient geography, PIRÆUS, a celebrated port of Attica, on the W. of Athens, consisting naturally of three harbours or basons, which lay neglected, till Themistocles put the Athenians on making it a commodious port; the Phalerus, a small port, and not far from the city, being what they used before that time. (*Thucyd. Paus. Nepos.*) Piræus was originally a village of Attica, on an island, and though distant 40 stadia from Athens, was joined to it by two long walls, and itself locked or walled round; with a very commodious

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ſe harbour. *(Pauſ. Strab. Thucyd.)* The whole f its compaſs was 60 ſtadia, including the Mu-chia. Near the Piræus ſtood the ſepulchre of hemiſtocles; whither his friends conveyed his nes from Magneſia, into the Hither Aſia. *(Cic. at. Pauſ.)* The entrance of the Piræus is nar-w, and formed by two rocky points, one be-nging to the promontory of Eetion, the other that of Alcimus. Within were three ſtations r ſhipping; Kantharus, ſo named from a hero; PHRODISIUM, from a temple of Venus; and ta, the reſort of veſſels laden with grain. By was a demos or borough town of the ſame me before the time of Themiſtocles, who re-mmended the exchanging its triple harbour for ſingle one of Phalerum, both as more capa-us and as better ſituated for navigators. The ll was begun by him when archon, in the 2d r of the 75th Olympiad, A. A. C. 477; and rwards he urged the Athenians to complete s the importance of the place deſerved. This ole fortification was of hewn ſtone, without ent or other material, except lead and iron, ich were uſed to hold together the exterior ges or facings. It was ſo wide that the load-arts could paſs on it in different directions, it was 40 cubits high, which was only about what he had deſigned. The Piræus, as A-s flouriſhed, became the common emporium Greece. Hippodamus, an architect, cele-ted, beſides other monuments of his genius, as ventor of many improvements in houſe ding, was employed to lay out the ground. ſporticoes, which uniting formed the *Long* ea, were erected by the ports. Here was an a or market place, and, farther from the ſea, ter called *Hippodamia*. By the veſſels were ings for the mariners. A theatre was open-temples were raiſed, and the Piræus, which ſtled the city in utility, began to equal it in ty. The cavities and windings of Munychia, ral and artificial, were filled with houſes; the whole ſettlement, comprehending Phale-and the ports of the Piræus, with the arſe-ſale ſtorehouſes, the famous armoury of Philo was the architect, and the ſheds for and afterwards 400, triremes, reſembled the of Rhodes, which had been planned by the Hippodamus. The ports, on the com-ncement of the Peloponneſian war, were ſe-d with chains. Centinels were ſtationed, and Piræus was carefully guarded. The Piræus reduced with great difficulty by Sylla, who liſhed the walls, and ſet fire to the armoury rſenals. In the civil war it was in a defence-condition. Calenus, lieutenant to Cæſar, d it, inveſted Athens, and ravaged the terri-Strabo, who lived under the emperors Au-s and Tiberius, obſerves, that the many wars ſtroyed the long walls, with the fortreſs of chia, and had contracted the Piræus into a ettlement by the ports and the temple of the Saviour. This fabric was then adorn-th capital pictures, the works of illuſtrious s, and on the outſide with ſtatues. In the ntury, beſides houſes for triremes, the tem-f Jupiter and Minerva remained, with their s in braſs, and a temple of Venus, a portico, and the tomb of Themiſtocles. The port of the Piræus has been named *Porto Lione*, from the marble lion ſeen in the chart, and alſo *Porto Draco*. The lion was a piece of admirable ſculpture, 10 feet high, and as repoſing on its hinder parts. It was pierced, and, as ſome think, belonged to a fountain. Near Athens, in the way to Eleuſia, was another, couchant; probably its companion. Both theſe were removed to Venice by general Moroſini, and probably thence to Paris, along with the two Venetian brazen lions, by Bonaparte. At the mouth of the port are two ruined piers. A few veſſels, moſtly ſmall craft, frequent it. Some low land at the head ſeems an incroachment on the water. The buildings are a mean cuſtomhouſe, with a few ſheds; and by the ſhore on the eaſt ſide, a warehouſe belonging to the French; and a Greek monaſtery dedicated to St Spiridion. On the oppoſite ſide is a rocky ridge, on which are remnants of the ancient wall, and of a gateway towards Athens. By the water edge are veſtiges of building; and going from the cuſtomhouſe to the city on the right hand, traces of a ſmall theatre in the ſide of the hill of Munychia.

PIRAGINEN, a town of Pruſſian Lithuania, 2 miles NE. of Inſterburg.

PIRANESI, an eminent Venetian architect and engraver, born about 1711. He was remarkable for a bold and free manner of etching, whereby he drew his figures upon the plate at once. He died in 1780.

PIRANO, a ſea port town of Maritime Auſtria, in Iſtria, capital of a diſtrict ſo named, ſeated on a peninſula, 10 miles S. of Capo, famous for its trade in ſalt. Lon. 14. 1. E. Lat. 45. 40. N.

(1.) * PIRATE. *n. ſ.* [πειρατης, Gr. *pirata*, Lat. *pirate*, Fr.] 1. A ſea-robber.—*Pirates* all nations are to proſecute, not ſo much in the right of their own fears, as upon the band of human ſociety. *Bacon.*—

Savage *pirates* ſeek through ſeas unknown
The lives of others, vent'rous of their own.
Pope.

2. Any robber; particularly a bookſeller who ſeizes the copies of other men.

(2.) PIRATE is alſo uſed for an armed ſhip that roams the ſeas without any legal commiſſion, and ſeizes or plunders every veſſel ſhe meets indiſcriminately, whether friends or enemies. The colours uſually diſplayed by pirates are a black field, with a death's head, a battle-axe, and hour glaſs. The laſt inſtrument is generally ſuppoſed to determine the time allowed to the priſoners, whom they take, to conſider whether they will join the pirates in their felonious combination, or be put to death, which is often perpetrated in the moſt cruel manner.

(1.) * *To* PIRATE. *v. a.* [*pirater*, Fr.] To take by robbery.—

They advertiſed, they would *pirate* his edition. *Pope.*

(2.) * *To* PIRATE. *v. n.* [from the noun.] To rob by ſea.—They robbed at land, and *pirated* by ſea. *Arbuthnot.*

* PIRATICAL. *adj.* [*piraticus*, Lat. from *pirate*.] 1. Predatory; robbing; conſiſting in robbery.—A kind of *piratical* trade, robbing, ſpoiling,

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ing, and taking prisoners the ships of all nations. *Bacon.* 2. Practising robbery.—The errours of the press were multiplied by *piratical* printers. *Pope.*

PIRAUGY, a river of Brazil, SE. of Rio Grand.

PIRAZZETA, a town of Naples, in Basilicata; 14 miles NE. of Tursi.

PIRE, a town of France, in the dep. of Ille and Vilaine; 3 miles SE. of Chateau Giron, and 9 WNW. of Gurrche.

PIREMIL, a town of France, in the dep. of the Sarte; 10 miles NE. of Sable.

(1.) PIRENE, a fountain sacred to the Muses, springing below the top of the Acrocorinthus, a high and steep mountain which hangs over Corinth. Its waters were agreeable to drink, extremely clear, very light, and pale, representing the grief of PIRENE, and the paleness brought on by the too eager pursuits of the Muses. *Plin. Paus. Strab. Athen. Pers.*

(2.) PIRENE, in fabulous history, a daughter of the river god, Achelous, who had two sons by Neptune, named *Leches* and *Cenchrius*, from whom the two harbours of Corinth were named. The latter was killed by Diana, and Pirene was so disconsolate for his death, that she wept continually till she was dissolved into the fountain that bears her name.

PIRGIA, a town of Asiatic Turkey, in Caramania; 112 miles SW. of Cogni.

(1.) PIRGO, a town of European Turkey, in Albania; at the mouth of the Palonia, 20 miles N. of Valona.

(2.) PIRGO, a town in the isle of Santorin, in the Grecian Archipelago, 2 miles S. of Scaro.

PIRI, a province of Africa, in Loango.

PIRIAC, a town of France, in the dep. of the Lower Loire, on the sea coast; 9 miles NW. of Guerande.

PIRIATIN, a town of Russia, in Kiof, 68 miles ESE. of Kiof. Lon. 50. 28. E. of Ferro. Lat. 51. 18. N.

PIRIN'S ISLAND, an island of Africa, in the mouth of the Olibato, 5 miles in circumference.

PIRIOUTI, a town of Asia, in Thibet; 60 m. E. of Panctou.

PIRITHOUS, in fabulous history, a king of the Lapithæ, in Thessaly, son of Ixion and the cloud, or as others say, of Jupiter and Dia. Hearing of the exploits of THESEUS, he resolved to try his valour by invading Attica; but when the two monarchs met at the head of their armies, instead of fighting, they formed a lasting friendship, which became proverbial. Pirithous soon after married Hippodamia, the daughter of Adrastus, K. of Argos, when not only the Centaurs and all the heroes of the age, but the gods themselves were invited, all except Mars, who avenged the neglect, by occasioning dissention among the guests. The centaur Eurythion, attempting to offer violence to the bride, was killed by Theseus; on which a general battle ensued between the Centaurs and Lapithæ, wherein the former were defeated. See LAPITHÆ. After this, Hippodamia dying, Pirithous became disconsolate; till, consulting with Theseus, they formed the desperate enterprise of descending to hell, and carrying off the goddess Proserpine; for which Pluto condemned Pirithous to be tied to Ixion's wheel, or worried by the dog Cerberus. But he was soon after delivered by Hercules, and restored to his kingdom. *Ovid. Hesiod. Homer, Paus. Apollod.*

PIRITZ, a town of Pomerania, in Stettin, anciently a residence of the dukes of Pomerania. It is memorable for being the first town in that duchy, that renounced paganism for Christianity, and afterwards the first that exchanged popery for Lutheranism. It is seated near lake Maldi, 11 miles S. of Stargard, 20 SE. of Stettin, and 98 N. of Custrim. Lon. 14. 20. E. Lat. 53. 18. N.

PIRMASENS, a town of the imperial French republic, in the dep. of the Rhine and Mo[illegible] and late lordship of Lichtenberg; 12 miles S. of Deux Ponts, and 18 W. of Landau. Near the town the French were defeated by the Prussians under the D. of Brunswick, on the 14th Sept. 1793; and lost 3000 prisoners, and 24 cannon.

PIRNA, a town of Upper Saxony, in Misnia, on the Elbe; with a good trade: 9 miles SSW. of Stolpen, and 11 SE. of Dresden. Lon. 31. 42. E. Ferro. Lat. 50. 54. N.

PIROMALLI, Paul, a learned dominican of Calabria, who was sent a missionary into the east. He remained long in Armenia, where he brought back to the church many schismatics and Eutychians, and the patriarch himself, who had before thrown every obstacle in his way. He afterwards went into Georgia and Persia, then into Poland, as Pope Urban VIII.'s nuncio, to appease the disturbances occasioned there by the Armenians, whom he reunited to the church. In his return to Italy, he was taken by some Corsairs who carried him prisoner to Tunis. As soon as he was ransomed, he went to Rome, and gave an account of his mission to the pope, who considered upon him signal marks of his esteem; ordained him, with the revisal of an Armenian Bible, and sent him again into the east, where he was promoted, in 1655, to the bishopric of Nakshuan. After having governed that church for 9 years, he returned to Italy, and took the charge of the church of Bafignano, where he died in 1667. His charity, and other virtues did honour to his character and office. There are extant of his writings, 1. Some works of Controversy and Theology. 2. Two Dictionaries; the one a Latin-Persian, and the other an Armenian-Latin. 3. An Armenian Grammar. 4. A Directory, which is of great use in correcting Armenian books.

PIRON, Alexis, the son of an apothecary, was at Dijon, 9th July 1689, where he passed about 30 years in dissipation. He was at length obliged to quit Dijon, on account of an ode he had written, which gave great offence. He supported himself at Paris by his pen, the strokes of which were as beautiful as if they had been engraved. He lived in the house of M. de Belliste, as secretary, and afterwards with a financier. His reputation as a writer commenced with some pieces which he published, which showed strong marks of original invention; but what fully established his character in this way, was his comedy entitled *Metromany*, which was the best that had appeared in France since Regnard's Gen[illegible]

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This performance, in five acts, well conducted, eplete with genius, wit, and humour, was acted rith the greateſt ſucceſs upon the French ſtage 1738. The author met with every attention the capital which was due to a man of genius, hoſe ſtaſhes of wit were ſuppoſed to be inexauſtible: but of the numerous anecdotes recordd of his humour, we have not ſeen one worthy quoting. They all evidence on his part an inderable degree of ſelf-conceit. He died the 21ſt n. 1773, aged 83. His wife, Maria Thereſa uenandon, who died in 1751, he deſcribes as a oſt agreeable companion. They lived together r ſeveral years; and no huſband ever diſchargd his duty with more fidelity. A collection of s works appeared in 1776, in 7 vols. 8vo; and 9 ls. 12mo. The principal pieces are, The School Fathers; a comedy, acted in 1728. Calliſtnes; a tragedy, the ſubject from Juſtin. The yſterious Lover, a comedy. Guſtavus and Ferand Cortez, two tragedies. The Courſes of mpe, an ingenious paſtoral. Some odes, poms, fables, and epigrams. In this laſt kind of dry he was very ſucceſsful; but there was no aſion for loading the public with 7 vols. of his rks; the half of that number might have ſuffil. For, excepting Metromany, Guſtavus, the urſes of Tempe, ſome odes, about 20 epigrams, t 4 fables, and ſome epiſtles, the reſt are indifent.

IROT, a town of European Turkey, in Bulia, 30 miles NW. of Sophia.

IRRAWARTH, a town of Auſtria, 7 miles E. of Ziſterſdorf, and 14 NNE. of Vienna.

IRUSTÆ, an ancient nation of Illyricum. y. 45. c. 26.

1.) PISA, in ancient geography, a town of Eon the Alpiæus, at the W. end of the Peloneſus, founded by PISUS. OENOMAUS reigns in it, till he was conquered by Pelops. (See ops.) Its inhabitants accompanied NESTOR he Trojan war, and long enjoyed the privi of preſiding at the OLYMPIC GAMES, which celebrated near Piſa. But this honourable ction proved at laſt their deſtruction. For were envied for it by the people of Elis, who war upon them, and after many bloody batwith various ſucceſs, at laſt took their city totally demoliſhed it. Piſa was famous for its rs; its inhabitants were called PISÆI and Pres; and a colony of them founded PISÆ, now , in Italy. See N° 2.

.) PISA, in modern geography, a large town truria, or Tuſcany, ſeated on the Arno, 52 from Florence. It was a famous republic, abdued, firſt by the duke of Milan, and then e Florentines in 1406. Before it loſt its free, it is ſaid to have contained near 150,000 inants, but now it has not above 16,000 or 20. It was founded by the Piſans of Peloponand afterwards became one of the 12 munio of Tuſcany. Its neighbourhood to Leghorn, the chief port in the Mediterranean, contri l greatly to the decay of Piſa, which, however now begins to flouriſh again. The houſes reil built, and the ſtreets even, broad, and paved; but in many places over-run with . The univerſity is well endowed, and has able profeſſors, but is not flouriſhing. The exchange is a ſtately ſtructure, but little frequented. The king of Etruria's galleys are built, and commonly ſtationed here. This city is alſo the principal reſidence of the order of St Stephen, and the ſee of an archbiſhop. The cathedral, a large Gothic pile, contains a great number of excellent paintings and other curioſities. This church is dedicated to St Mary; is very advantageouſly ſituated in the middle of a large piazza, and built out of a great heap of wrought marble, ſuch as pillars, pedeſtals, capitals, cornices, and architraves, part of the ſpoils which the Piſans took in their eaſtern expeditions, when the republic was flouriſhing. The roof is ſupported by 76 high marble pillars of different colours, finely gilt. In the ſame ſquare with the dome, ſtands the baptiſtry, a round fabric ſupported by ſtately pillars, and remarkable for a very extraordinary echo. On the N. ſide of the cathedral is the burying place, called *Campo Santo*, being covered with earth brought from the Holy Land. This burying-place is incloſed with a broad portico, well painted, and paved with grave ſtones. Here are many ancient tombs, among the reſt that of Beatrix, mother of the counteſs Mathilda, with marble baſſo-relievos, which the Piſans brought from Greece, wherein is the hunt of Meleager, which aſſiſted Nicholas of Piſa in the reſtoration of ſculpture. The walls of the Campo Santo are painted by the beſt maſters of their times. Giotto has drawn ſix hiſtorical pieces of Job; and Andrew Orgagna a fine piece of the laſt judgment. Near the church is a ſteeple in the form of a cylinder, which is aſcended by 153 ſteps; it inclines 15 feet to one ſide, which ſome aſcribe to art, but others to the ſinking of the foundation. It was built by John of Inſpruck and Bonanno of Piſa, in 1174. Near this ſteeple is a fine hoſpital, dependent on that of St Maria Nuova in Florence. The ſteeple of the church of the Auguſtinians is an octagon, adorned with pillars, built by Nicholas of Piſa. In the great market place is a ſtatue of Plenty, by Da Vinci. The church of the knights of St Stephen, decorated with the trophies taken from the Saracens, is all of marble, with marble ſteps, and a front with marble ſtatues. In the ſquare there is a ſtatue of Coſmo I. Contiguous to the church is the palace of the knights; alſo the churches of Madonna and Spina; the laſt of which was built by a beggar. There is a great number of colleges, the chief of which is the Sapienza, where the profeſſors read their public lectures; next the colleges Puteano, Ferdinando, Ricci, and others. There are ſeveral palaces with marble fronts; the fineſt is that of Lanfranchi, which, with the reſt along the Arno, makes a very fine appearance. There is a good dock, where they build the galleys, which are conveyed by the Arno to Leghorn. They have a famous aqueduct, conſiſting of 5000 arches, which conveys the water from the hills, 5 miles diſtant. This water is eſteemed the beſt in Italy, and is carried in flaſks to Florence and Leghorn. The city has a moat, walls, a caſtle, fort, and citadel; the laſt of which is a modern work. The Arno is of a conſiderable breadth here, and has 3 bridges, one of marble: 6 miles below the town it falls into the ſea. The phyſic garden is

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very ſpacious, contains a great number of plants, and is decorated with water-works. The air is unwholeſome in ſummer, from the neighbouring moraſſes. Many buffaloes are bred in the neighbouring country, and their fleſh is eaten. Between Piſa and Lucca are hot baths. Lon. 10. 17. E. Lat. 43. 43. N.

(3.) PISA, a river of Italy, in Etruria, which runs into the Arno, near Piſa.

PISÆ, in ancient geography, a town of Etruria, built by a colony of Piſæi, from PISA in Peloponneſus. Dionyſius of Halicarnaſſus ſays it was built before the Trojan war; but others ſay it was built by thoſe Piſæans, who were ſhipwrecked on the coaſt of Italy, in their return from it. The people were called PISANI, and were once very powerful. They conquered Sardinia, Corſica, and the Baleares Iſlands. *Virg. Æn.* x. 179. *Strabo*, 5. *Lucan.* ii. 401. *Liv.* 39. 2. It is now called *Piſa*. See PISA, N° 2.

PISÆANS, } PISEANS, the ancient inhabitants
PISÆI, or } of PISA in Elis.

PISÆUS, an epithet of Jupiter.

(1.) PISAN, Thomas, a celebrated aſtrologer of Bologna, who was invited to Venice by Dr Forli, counſellor of the republic, who gave him his daughter in marriage. Charles V. of France invited him to his court, and he went in 1380, and predicted the day of his death, which it is ſaid, happened accordingly.

(2.) PISAN, Chriſtina, daughter of the aſtrologer, was a perſon of more conſequence than her father. She was born at Venice in 1363, and was both a beautiful woman and an accompliſhed writer. She wrote the Life of king Charles V. of France, and was much patroniſed by Charles VI.

PISANA. See PICOSA.

PISANI, the ancient inhabitants of PISÆ.

PISANO, a territory of Italy, in Etruria, 47 miles long, and 25 broad. It is bounded on the N. by the Florentino, and the republic of Lucca; on the E. by the Sienneſe, and on the W. by the Mediterranean. It is fertile in corn, wine, and fruits; and abounds with fine cattle. It is eſteemed the beſt county in Etruria. PISA is the capital. There is a canal 16 Italian miles long, between Piſa and Leghorn.

PISANY, a town of France, in the department of Lower Charente; 6 miles SW. of Saintes.

PISATES, the people of Piſa, in Elis.

PISAURUM, in ancient geography, a town of Italy, in Picenum. It became a Roman colony, in the conſulſhip of Claudius Pulcher. It is now called PESARO. It was deſtroyed by an earthquake, in the beginning of Auguſtus's reign. *Plin.* 3. *Liv.* 39. c. 44.

PISAURUS, a river of Italy, in Picenum, now called FOGLIO. *Mela.*

(1.) PISCA, a handſome town of Peru, in Lima, in a fertile country, half a mile from the coaſt of the South Sea, and 140 S. of Lima. Lon. 76. 15. W. Lat. 13. 36. S.

(2.) PISCA PIGNATARA, a town of Naples, in Moliſe; 15 miles NW. of Moliſe.

PISCADORE ISLANDS, a cluſter of Iſlands in the N. Pacific Ocean. Lon. 192. 30. W. Lat. 11. 0. N.

(1.)* PISCARY. *n. ſ.* A privilege of fiſhing. *Dict.*

(2.) PISCARY, in ancient ſtatutes, is the liberty of fiſhing in another man's waters.

(1.) PISCATAQUA, or } a large river of the U.
(1.) PISCATAQUAY, } nited States, in New Hampſhire, which riſes from a pond in the NE. corner of Wakefield, and after running 40 miles SSE. falls into the ſea at Piſcataqua harbour.

(2.) PISCATAQUAY, or PISCATAQUA, a town of New Hampſhire, at the mouth of the above river, the only ſea port in the ſtate, with a good harbour and a light-houſe, 60 miles N. of Boſton. Lon. 70. 41. W. Lat 43. 4. N.

(1.) PISCATAWAY, a river of Maryland, which runs into the Potomac, 8 miles below Alexandria.

(2.) PISCATAWAY, a town of Maryland in Prince George's County, on the above river; 37 miles SW. of Annapolis, and 165 SW. of Philadelphia. Lon. 1. 58. W. of that city. Lat. 38. 46. N.

(3.) PISCATAWAY, a townſhip of New Jerſey, in Middleſex county, on the Rariton, 6 miles above its mouth. It contained 2043 citizens, and 218 ſlaves, in 1795.

(4.) PISCATAWAY, a town of Virginia, 3 miles SW. of Tappahannock.

* PISCATION. *n. ſ.* [*piſcatio*, Lat.] The art or practice of fiſhing.—There are four books of cynegeticks, or venation; five of halieutick, or *piſcation*, commented on by Ritterhuſius. *Brown's Vulgar Errors.*

* PISCATORY. *adj.* [*piſcatorius*, Lat.] Relating to fiſhes.—On this monument is repreſented in bas-relief, Neptune among the ſatyrs, to ſhew that this poet was the inventor of *piſcatory* eclogues. *Addiſon's Remarks on Italy.*

PISCES, in aſtronomy, the 12th ſign or conſtellation of the zodiac. See ASTRONOMY, § 56.

PISCH, a river of Poland, which runs into the Narew, near Pultuſk, in Maſovia.

PISCHENA, a town of Sileſia, in Brieg.

PISCHIERA. See PESCHIERA.

PISCHMA, a river of Ruſſia, which runs into the Tura, near Tiumen.

PISCIDIA, a genus of the decandria order, belonging to the diadelphia claſs of plants; and in the natural method, ranking under the 32d order, *Papilionaceæ*. There are two ſpecies: viz.

1. PISCIDIA CARTHAGINIENSIS, with oblong oval leaves, is a native of the Weſt Indies. It differs from the ERYTHRINA, (ſee N° 2.) only in the ſhape and conſiſtence of the leaves, which are more oblong and ſtiffer; but in other reſpects they are very ſimilar.

2. PISCIDIA ERYTHRINA, the DOG-WOOD tree, grows plentifully in Jamaica, where it riſes to 40 feet or more; the ſtem is almoſt as large as a man's body, covered with a light-coloured ſmooth bark, and ſending out ſeveral branches at the top in good order; the leaves are about two inches long, winged with oval lobes. The flowers are of the butterfly kind, and of a dirty white colour; they are ſucceeded by oblong pods, with four longitudinal wings, and jointed between the cells which contain the ſeeds. Both ſpecies are eaſily propagated by ſeeds; but require artificial heat to preſerve them in this country.—The negroes in the Weſt Indies make uſe of the bark of this ſpecies to intoxicate fiſh. When gentlemen have an in-

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clination to divert themſelves with fiſhing, or rather with fiſh-hunting, they ſend each of them a negro ſlave to the woods, to fetch ſome of the bark of the dog-wood tree. This bark is next morning pounded very ſmall, put into old ſacks, carried into rocky parts of the ſea, ſteeped till thoroughly ſoaked with ſalt-water, and then well squeezed by the negroes to expreſs the juice. This juice immediately colours the ſea with a reddiſh hue; and, being of a poiſonous nature, will in an hour make the fiſhes, ſuch as groopers, rockfiſh, old wives, Welchmen, &c. ſo intoxicated, as to ſwim on the ſurface of the water, quite heedleſs of the danger: the gentlemen then ſend in their negroes, who purſue, ſwimming and diving, the inebriated fiſhes, till they catch them with their hands; their maſters ſtanding by, on high rocks, to ſee the paſtime. It is remarkable, that though this poiſon kills millions of the ſmall fry, it has never been known to impart any bad quality to the fiſh which have been caught in conſequence of the intoxication. The wood of this tree, although pretty hard, is only fit for fuel; and even for this purpoſe the negroes very ſeldom ever, employ it, on account of its ſingular quality juſt mentioned. The bark is rough, brown, and thick; the tree ſends forth a conſiderable number of branches, and is well clothed with leaves, which reſemble thoſe of the pea, are thick, ſtony, and of a deep green. The bark uſed for the above-mentioned purpoſe is chiefly that of the roots.

(2.) PISCINA, in antiquity, a large baſon in a public place or ſquare, where the Roman youth learned to ſwim; and which was ſurrounded with a high wall, to prevent filth from being thrown into it.—This word is alſo uſed for a lavatory among the Turks, placed in the middle court of a moſque, or temple, where the muſſulmen waſh themſelves before they offer their prayers.

(2.) PISCINA, in geography a town and biſhop's ſee of Naples, in Abruzzo Ultra; 18 miles S. of Aquila, and 18 N. of Sora.

PISCIOTA, a town of Naples, in Principato Citra; 16 miles W. of Policaſtro.

* PISCIVOROUS. *adj.* [*piſcis* and *voro.*] Fiſhing; living on fiſh.—In birds that are not carnivorous, the meat is ſwallowed into the crop or to a kind of anteſtomach, obſerved in *piſcivorous* birds, where it is moiſtened and mollified by ſome proper juice. *Ray.*

(1.) PISCO, a ſea port town of Peru, in Lima, formerly ſeated on the coaſt of the South Sea, but now removed a quarter of a league from it, in conſequence of a dreadful earthquake, which happened on the 19th Oct. 1682; when the ſea retired half a league, and then returned with ſuch violence, that it overflowed nearly as much land beyond and deſtroyed the whole old town. Piſco contains about 300 families, moſtly negroes, mulattoes and meſtizoes, there being but few whites. It has 3 churches and a chapel for Indians. The road is ſafe and capacious enough to hold a large fleet. It is 18 miles from Chinca, and 110 SSE. of Lima. Lon. 76. 15. W. Lat. 13. 36. S.

(2.) PISCO, OLD. See above. The ruins of the old town are ſtill viſible and extend from the ſea weſt to the new town.

(3.) PISCO PAGANO, a town of Naples, in Baſilicata; 7 miles NW. of Muro.

PISCOBAMBA, a town of Peru, in Guamalies.

PISCOPIA, an iſland in the Mediterranean, 16 miles NW. of Rhodes.

PISDORFF, a town of Germany in Auſtria: 3 miles NE. of Entzerſtorf.

PISEANS. See PISA, N° 2, and PISÆI.

PISEK, a town of Bohemia, in Prachatitz, on the Watawa. It was dreadfully laid waſte during the war that laſted 30 years in the 15th century. It is 20 m. N. of Prachatitz, and 46 S. of Prague.

PISELLO, the moſt northern cape of Aſia, in Natolia, which projects into the Black Sea, oppoſite Crimea.

PISENBERG, a town of Germany in Auſtria, one mile E. of Korn-Neuburg.

(1.) PISGAH, or PHASGAH, a mountain on the other ſide Jordan, joined to Abarim and Nebo, and running S. to the mouth of the Arnon: from which Moſes had a view of the promiſed land, and where he died, after appointing Joſhua his ſucceſſor. (See ABARIM.) Wells takes Piſgah and Nebo to be different names of the ſame mountain, a part or branch of the mountains Abarim. (Deut. xxxii. 49. compared with Deut. xxxiv 1.) Or that the top of Nebo was peculiarly called *Piſgah*; or ſome other part of it, cut out in ſteps, as the primitive word denotes: and thus it is rendered by Aquila, by a Greek word ſignifying *cut out. Jerome.*

(2, 3.) PISGAH, a city and territory of Paleſtine, adjacent to Mount Piſgah. *Jerome.*

* PISH. *interj.* A contemptuous exclamation. This is ſometimes ſpoken and written *pſhaw.* I know not their etymology, and imagine them formed by chance.—

However they have writ the ſtile of Gods,
And made a *piſh* at chance or ſufferance. *Shak.*
—She frowned and cried *piſh*, when I ſaid a thing that I ſtole. *Spect.*

* *To* PISH. *v. n.* [from the interjection.] To expreſs contempt.—He turn'd over your Homer, ſhook his head, and *piſh'd* at every line of it. *Pope.*

PISHOUR. See PEISHORE.

PISIDÆ, the ancient inhabitants of PISIDIA. *Cic. de Div.* 1. c. 1. *Liv.* 37. c. 54, 56.

PISIDIA, an inland country of Aſia Minor, between Phrygia, Pamphylia, Galatia, and Iſauria. *Mela*, 1. c. 2. *Strabo*, xii. Acts, xiii, 14—52.

PISIN, a town of Maritime Auſtria, in Iſtria; 4 miles N. of Pedena.

PISIS, a native of Theſpia, who obtained great influence among the Thebans and acted with great zeal and courage, in defence of their liberties. He was at laſt taken priſoner by Demetrius, who made him governor of Theſpia.

PISISTRATIDÆ, the two ſons of Piſiſtratus, viz. Hipparchus and Hippias, who rendered themſelves as illuſtrious as their father; but the flames of liberty were two powerful to be extinguiſhed. The Piſiſtratidæ governed with great moderation, but the name of tyrant or ſovereign was inſupportable to the Athenians. Of the conſpiracy of HARMODIUS and ARISTOGITON againſt them, and the murder of Hipparchus, a full account is given under ATTICA, § 10. Hippias was at laſt expelled by the united efforts of the Athenians and their

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allies. The reſt of the Piſiſtratidæ followed him in his baniſhment; and after they had refuſed to accept the liberal offers of the princes of Theſſaly, and the king of Macedonia, who wiſhed them to ſettle in their reſpective territories, they retired to Sigæum, which their father had, in the ſummit of his power, conquered and bequeathed to his poſterity. After the baniſhment of the Piſiſtratidæ, the Athenians became uncommonly jealous of their liberty, and often ſacrificed the beſt of their citizens, to their jealouſy of the influence which popularity and liberality might gain among a fickle and unſettled populace. (See PHOCION.) The Piſiſtratidæ were baniſhed from Athens about 18 years after the death of Piſiſtratus.

PISISTRATUS, an Athenian who early diſtinguiſhed himſelf by his valour in the field, and by his addreſs and eloquence at home. After he had rendered himſelf the favourite of the populace by his liberality, and by the intrepidity with which he had fought their battles, particularly near Salamis, he reſolved to make himſelf maſter of his country. Every thing ſeemed favourable to his ambitious views; but Solon alone oppoſed him, and diſcovered his duplicity before the public aſſembly. Of the various arts he adopted to attain the ſupreme power; and of his ſucceſs, and repeated expulſions and reſtorations, a particular account is given under ATTICA, § 8, and 9. Upon his being the 3d time received by the people of Athens as their ſovereign, he ſacrificed to his reſentment the friends of Megacles, but did not loſe ſight of the public good, and while he ſought the aggrandizement of his family, he did not neglect the dignity and the honour of the Athenian name. He died about A. A. C. 528, after he had enjoyed the ſovereign power at Athens for 33 years, and was ſucceeded by his ſon Hipparchus. Piſiſtratus claims our admiration for his juſtice, his liberality, and his moderation. Even when he had the ſupreme power, he often refuſed to puniſh the inſolence of his enemies. In ſhort had he been born to the power he uſurped, he would have been a moſt reſpectable character; but the utmoſt juſtice and moderation in government can never vindicate the crime of *uſurpation*.—It is to his labours, however, that we are indebted for the preſervation of the poems of Homer; and he was the firſt, according to Cicero, who introduced them at Athens in the order in which they now ſtand. He alſo eſtabliſhed a public library at Athens; and the valuable books which he had diligently collected were carried into Perſia, when Xerxes made himſelf maſter of Athens.

PISKOI, a town of Ruſſia, in Archangel, on the Meſen; 188 miles E. of Archangel.

(1.) * PISMIRE. *n. ſ.* [*myra*, Sax. *piſmiere*, Dutch.] An ant; an emmet.—

His cloaths, as atoms might prevail,
Might fit a *piſmire* or a whale. *Prior.*

—Prejudicial to fruit are *piſmires*, caterpillars and mice. *Mort.*

(2.) PISMIRES, are a kind of inſects very common in Africa; of which there is ſo great a variety, and ſuch innumerable ſwarms, that they deſtroy not only the fruits of the ground, but even men and beaſts in ſo ſhort a time as one ſingle night; and would, without all doubt, prove more fatally deſtructive to the inhabitants, were they not ſo happily deſtroyed by a proportionable number of monkeys, who greedily ferret and devour them. For a further account of theſe inſects, See ANT, FORMICA, and TERMES. As for locuſts and ſome other grievous plagues with which the far greater part of the vaſt continent of Africa is afflicted, but which do not belong to this genus, ſee GRYLLUS, N° II. § iv.

PISO, the hereditary cognomen of a branch of the illuſtrious Roman family of the *Calpurnii* (ſee CALPHURNII), which produced many great men during the republic, as well as ſome infernal villains. We ſubjoin a ſpecimen of both claſſes.

(1.) PISO, Lucius Calpurnius, ſurnamed Frugi, on account of his frugality, was tribune of the people, A. A. C. 149, and afterwards conſul. During his tribuneſhip, he publiſhed a law againſt extortion, entitled *Lex Calpurnia de pecuniis repetundis*. He happily ended the war in Sicily. To reward the ſervices of one of his ſons, who had diſtinguiſhed himſelf in that expedition, he left him by his will a golden crown, weighing 50 pounds. Piſo joined to the qualities of a good citizen, the talents of a lawyer, an orator, and hiſtorian.

(2.) PISO, Caius Calpurnius, a Roman conſul, who in the year 67 before Chriſt, was author of the law which forbid canvaſſing for public offices, intitled *Lex Calpurnia de ambitu*. He diſplayed all the firmneſs worthy of a conſul in one of the moſt ſtormy periods of the republic; and by his determined reſolution, prevented the people from raiſing Marcus Palicanus, a man of no merit, to the conſular dignity.

(3.) PISO, Cneius Calpurnius, was conſul in the reign of Auguſtus, and governor of Syria under Tiberius, whoſe confident he was. It is ſaid that by the order of this emperor he cauſed Germanicus to be poiſoned. Being accuſed of that crime, and ſeeing himſelf abandoned by every body, he laid violent hands on himſelf A. D. 19. He was a man of inſupportable pride and exceſſive violence. Of this many inſtances are recorded, but the following is the moſt extraordinary, and horrible: Having ordered a ſoldier to be executed becauſe he had gone out of the camp without his arms, ſoldier and returned without him, the other ſoldier preſented himſelf to the centurion, who finding he was not murdered, ſtopt the execution, and all three went to Piſo, amidſt the joyful applauſe of the whole army. Whereupon Piſo put a ſtop to their joy by ordering all three to be put to death.

(4.) PISO, Lucius, a Roman ſenator, who attended the emperor Valerian in his unfortunate expedition into Perſia; (See PERSIA, § 16:) and after his capture or death, proclaimed himſelf emperor; but was defeated, taken priſoner, and put to death, by Valens, A. D. 261.

PISOGNE, a town of the Italian republic, in the department of Mincio, diſtrict and late duchy of Verona, with a harbour on the N. bank of lake Iſeo; containing about 2000 citizens. It have 3 iron founderies, with many iron mills, and carry on a very active trade. *Oppenheim.*

PISON, in ancient geography, the firſt of the 4 rivers that watered the garden of Eden, which Moſes deſcribes as "encompaſſing the whole land

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f Havilah, where there is gold," &c. (Gen. ii. 1, 12.) Some ſuppoſe the Piſon to be the Ganges; others particularly Calmet and Reland take to be the Phasis, which runs N. through olchis, (which they ſuppoſe to be *Havilah*,) om near the head of the Euphrates, to its exit the Euxine Sea; but theſe great commentators e evidently miſtaken, for the Phaſis, inſtead of ing near the head of the Euphrates and running W. has its ſource about 350 miles N. of the ad of the Euphrates, and runs SW. into the Euxe. The conjecture of Bochart and others apars to be more probable, that the Piſon is the branch of the divided ſtreams of the Tigris d Euphrates, which runs along the ſide of Haah in Arabia, and encompaſſes an extenſive tery.

PISONIA, in botany, Fingrigo, a genus of dioecia order, belonging to the polygamia ſs of plants.

* PISS. *n. ſ.* [from the verb.] Urine; animal ter.—It would vex one more to be knocked on head with a *piſs*-pot than a thunder bolt. *Pope.*

* *To* Piss. *v. a.* [*piſſer*, Fr. *piſſen*, Dutch.] To ke water.—I charge the *piſſing* conduit run no- but claret. *Shak.*—One aſs *piſſes*, the reſt for company. *L'Eſtrange.*—

Once poſſeſs'd of what with care you ſave,
The wanton boys would *piſs* upon your grave.
Dryden.

ISSA, a town of Pruſſian Lithuania; 4 miles allaporen.

* PISSABED. *n. ſ.* A yellow flower grow- the graſs.

Pissabed, in botany. See Leontodon.

ISSASPHALTO, a mountain in Bua.

ISSASPHALTUM, earth pitch; a fluid, ue, mineral body, of a thick conſiſtence, ng ſmell, readily inflammable, but leaving a mm of greyiſh aſhes after burning. It ariſes of the cracks of the rocks, in ſeveral places e iſland of Sumatra, and ſome other places e Eaſt Indies, where it is much eſteemed in tic diſorders. There is a remarkable mine the iſland of Bua, of which a curious deſion is given by Abbe Fortis, for which we to his work. It is a ſpecies of petroleum. Mineralogy, *Part* II. *Chap.* VI. *Gen.* III. : and Petroleum, § III. Abbe Fortis ſays, the piſſaſphaltum of Bua is correſpondent to foſſil production, which by Haſſelquiſt, in his els, is called mumia minerale, and mumia va Perſiana by Kœmpfer, which the Egyp- made uſe of to embalm their kings. It is d in a cave of mount Caucaſus, which is kept and carefully guarded by order of the king rſia. "Mumiahi, or native Perſian mummy Kœmpfer) proceeds from a hard rock in very quantity. It is a bituminous juice, that ades from the ſtony ſuperficies of the hill, reling in appearance coarſe ſhoemakers wax, as in its colour as in its denſity and ductility. e adherent to the rock it is leſs ſolid, but is ed by the warmth of the hands. It is eaſily d with oil, but repels water; it is quite of ſmell, and very like in ſubſtance to the ian mummy. When laid on burning coals, the ſmell of ſulphur tempered a little with that of naphtha, not diſagreeable. There are two kinds of this mummy; the one is valuable for its ſcarcity and great activity. The native place of the beſt mummy is far from the acceſs of men, from habitations, and from ſprings of water, in the province of Daraab. It is found in a narrow cave, not above two fathoms deep, cut like a well out of the maſs, at the foot of the ragged mountain Caucaſus." *Kœmpfer Amæn. Perſ.* This deſcription agrees perfectly with the piſſaſphaltum, or foſſil mummy of Bua, differing only in the privation of ſmell, which perhaps is not totally wanting in the Perſian mummy. One of the qualities aſſigned by M. Linnæus to the fineſt bitumen is to ſmoke when laid on the fire, as ours does, emitting a ſmell of pitch not diſagreeable. He believes it would be very good for wounds, as the oriental mumia is, and like the pitch of Caſtro, which is frequently uſed by the Roman ſurgeons for fractures, contuſions, and in many external applications.

* PISSBURNT. *adj.* Stained with urine.

PISSELÆUM Indicum, *Barbadoes Tar*; a mineral fluid of the nature of the thicker bitumens, and of all others the moſt approaching, in appearance, colour, and conſiſtence, to the true pissasphaltum, but differing from it in other reſpects. It is very frequent in many parts of America, where it is found trickling down the ſides of mountains in large quantities, and ſometimes floating on the ſurface of the waters. It has been greatly recommended internally in coughs and other diſorders of the breaſt and lungs. See Petroleum, N° 2, § I.

PISSER, a mountain of Germany, in Tyrol; 4 miles SE. of Landeck.

PISSIRUS, a town of Thrace, near the banks of the Neſſus. *Herodot.* vii. c. 109.

PISSOS, a town of France, in the department of the Landes; 27 miles NW. of Tartas.

Piss-pot, a bay on the S. coaſt of the Straits of Magellan; 24 miles W. by N. of Cape Notch. Lon. 75. 12. W. Lat. 53. 14. S.

(1.) * PISTACHIO. *n. ſ.* [*piſtache*, Fr. *piſtacchi*, Italian; *piſtachia*, Lat.] The *piſtachio* is or an oblong figure, pointed at both ends about half an inch in length, the kernel is of a green colour and a ſoft and unctuous ſubſtance, much like the pulp of an almond, of a pleaſant taſte: *piſtachios* were known to the ancients, and the Arabians call them *peſtuch* and *feſtuch*, and we ſometimes *fiſtich* nuts. *Hill.*—*Piſtachios*, ſo they be good, and not muſty, joined with almonds, are an excellent nouriſher. *Bacon.*

(2.) Pistachio, or Pistachia. See Pistacia

(I.) PISTACIA, turpentine-tree, *Piſtachia nut* and *Maſtich tree*; a genus of the pentandria order, belonging to the dioecia claſs of plants: and in the natural method ranking in the 50th order, *Amentaceæ*. There are 9 ſpecies; of which the moſt remarkable are,

1. Pistacia lentiscus, the common *maſtich tree*, grows naturally in Portugal, Spain, and Italy. Being an evergreen, it has been preſerved in this country in order to adorn the green-houſes. In the countries where it is a native, it riſes to the height of 18 or 20 feet, covered with a grey bark,

on

on the ſtem; but the branches, which are very numerous, are covered with a reddiſh-brown bark, and are garniſhed with winged leaves, compoſed of 3 or 4 pair of ſmall ſpear-ſhaped lobes, without an odd one at the end. This ſpecies is commonly propagated by laying down the branches, though it may alſo be raiſed from the ſeed in the manner directed for the piſtachia nut tree: (See N° 3.) and in this manner alſo may the true maſtich tree be raiſed. But this being more tender than any of the other ſorts, requires to be conſtantly ſheltered in winter, and to have a warm ſituation in ſummer. Piſtachia nuts are moderately large, containing a kernel of a pale greeniſh colour, covered with a reddiſh ſkin. They have a pleaſant, ſweet, unctuous taſte, reſembling that of almonds; and they abound with a ſweet and well-taſted oil, which they yield in great abundance on being preſſed after bruiſing them: they are reckoned amongſt the alexipharmics, and are wholeſome and nutritive; and are by ſome eſteemed very proper to be preſcribed by way of reſtoratives, eaten in ſmall quantity, to people emaciated by long illneſs.

(2.) PISTACIA ORIENTALIS the *true maſtich tree* of the Levant, from which the maſtich is gathered, has been confounded by moſt botanical writers with the common maſtich tree, above deſcribed, though there are conſiderable differences between them. The bark of the tree is brown; the leaves are compoſed of two or three pairs of ſpear-ſhaped lobes, terminated by an odd one: the outer lobes are the largeſt; the other gradually diminiſh, the innermoſt being the leaſt. Theſe turn of a browniſh colour towards the autumn, when the plants are expoſed to the open air; but if they are under glaſſes, they keep green. The leaves continue all the year, but are not ſo thick as thoſe of the common ſort, nor are the plants ſo hardy.

3. PISTACIA TEREBINTHUS, the *piſtachia tree*, grows naturally in Arabia, Perſia, and Syria, whence the nuts are annually brought to Europe. In thoſe countries it grows to the height of 25 or 30 feet: the bark of the ſtem and old branches is of a dark ruſſet colour, but that of the young branches is of a light brown. Theſe are garniſhed with winged leaves, compoſed ſometimes of two, at other times of three, pair of lobes, terminated by an odd one: theſe lobes approach towards an oval ſhape, and their edges are turned backward; and theſe when bruiſed, emit a ſmell ſimilar to that of the ſhell of the nut. Some of theſe trees produce male and others female flowers, and ſome have both male and female on the ſame tree. The male flowers come out from the ſides of the branches in looſe bunches or catkins. They have no petals, but five ſmall ſtamina crowned by large four-cornered ſummits filled with farina; and when this is diſcharged, the flowers fall off. The female flowers come out in cluſters from the ſides of the branches: they have no petals, but a large oval germen ſupporting three reflexed ſtyles, and are ſucceeded by oval nuts. This ſpecies is propagated by its nuts; which ſhould be planted in pots filled with light kitchen-garden earth, and plunged into a moderate hot-bed to bring up the plants: when theſe appear, they ſhould have a large ſhare of air admitted to them, and by degrees they ſhould be expoſed to the open air, which at laſt they will bear in all ſeaſons, though not without great danger of being deſtroyed in ſevere winters.

(II.) PISTACIA TREE BLACK. See HAMAMELIS.

* PISTE. *n. ſ.* [French.] The track or trail a horſeman makes upon the ground he goes on.

PISTIA, in botany, a genus of the hexandria order, belonging to the gynandria claſs of plants, and in the natural method ranking in the 3d order, *Miſcellaneæ*.

PISTIL, *n. ſ.* among botaniſts, the little upright column which is generally found in the centre of every flower. According to the Linnæan ſyſtem, it is the female part of generation, whoſe office is to receive and ſecrete the pollen, and produce the fruit. It conſiſts of three parts, viz. germen, ſtylus, and ſtigma. See BOTANY, *Index*.

* PISTILLATION. *n. ſ.* [*piſtillum*, Lat.] The act of pounding in a mortar.—The beſt diamonds we have are comminible, and ſo far from breaking hammers, that they ſubmit unto *piſtillation*, and reſiſt not an ordinary peſtle. *Brown*.

PISTILLUM. See BOTANY, *Index*.

(1.) PISTOIA, a city of Italy, in Etruria, ſituated on the Stella, in a beautiful and fertile plain at the foot of the Apennine mountains. By Livy it is called *Piſtorium*, and is ſaid to have been once a Roman colony. At preſent it is a biſhop's ſee, ſuffragan of Florence. The ſtreets are broad and regular, the houſes tolerably well built, but poorly inhabited for want of trade. Formerly it was an independent republic, but ſince it was reduced by the Florentines in 1200, it has been in a declining condition. The cathedral has a very handſome cupola, and a magnificent ſtair-caſe to aſcend to it. In the chapel dedicated to St James, where his relics are preſerved, the walls are almoſt covered with plates of ſilver. Here are many marble ſtatues of very good workmanſhip. The marble pulpit, the baſſo-relievos, the veſſel that holds the holy water, and the ſquare ſteeple, are the work of John Piſano. There is a fine college Jeſuits college, and the Franciſcans, Dominicans and Auguſtinians, have good churches. In the church of Madonna dell' Umilta there are ſtatues of Leo X. and of Clement VII. The palace, ſituated in a large ſquare is a handſome building; ſeveral of the nobility have alſo very good houſes. It is about 20 miles NW. of Florence, and 20 NE. of Piſa. Lon. 11. 29. E. Lat. 43. 55. N.

(2.) PISTOIA MOUNTAINS, mountains near Piſtoia, a part of the Apennines. There are ſeveral villages on them. The chief is St Marcello.

(1.) * PISTOL. *n. ſ.* [*piſtole*, *piſtolet*, Fr.] A ſmall handgun.—Three watch the door with *piſtols*, that none ſhould iſſue out. *Shak.*—The whole body of the horſe paſſed within *piſtol*-ſhot of the cottage. *Clarendon.*—Quickſilver diſcharged from a *piſtol* will hardly pierce through a paper. *Brown.*—A woman had a tubercle in the great canthus of the eye, of the bigneſs of a *piſtolet*. *Wiſeman.*—

How Verres is leſs qualify'd to ſteal,
With ſword and *piſtol*, than with wax and ſeal.
Tate.

(2.) PISTOL, the ſmalleſt piece of fire-arms,

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fore at the saddle-bow, on the girdle, and in the pocket. The barrel is generally 14 inches long. Piſtol barrels are forged in one piece; two at a time, joined by their muzzles; and are bored before they are cut aſunder; whereby there is a ſaving of time and labour, and a greater certainty of the bore being the ſame in both. The method of welding, boring, poliſhing, &c. is the ſame with that of guns. See MUSKET, § 6, 7.

(3.) PISTOL BAY, a bay at the N. extremity of Newfoundland.

* *To* PISTOL. *v. a.* [*piſtoler*, Fr.] to ſhoot with piſtol.

(1.) * PISTOLE. *n. ſ.* [*piſtole*, Fr.] A coin of many countries and many degrees of value.—I will diſburden him of many hundred *piſtoles*. *Dryden.*

(2.) PISTOLE, a gold coin, ſtruck in Spain and ſeveral parts of Italy, Switzerland, &c. The piſtole has its augmentations and diminutions, which are quadruple piſtoles, double piſtoles, and half piſtoles. See MONEY, § 9.

* PISTOLET. *n. ſ.* [diminutive of *piſtol*.] A little piſtol.—

Thoſe unlickt bear-whelps, unfil'd *piſtolets*,
That, more than cannon-ſhot, avails or lets.
Donne.

(1.) * PISTON. *n. ſ.* [*piſton*, Fr.] The moveable part in ſeveral machines; as in pumps and ſyringes, whereby the ſuction or attraction is cauſed; embolus.

(2.) PISTON, in pump-work, is a ſhort cylinder of metal or other ſolid ſubſtance, fitted exactly to the cavity of the barrel or body of the pump. See HYDROSTATICKS, *Sect.* VII—X.

PISTORIA, or PISTORIUM, in ancient geography, a town of Etruria, at the foot of the Apennines; memorable for the defeat of Catiline; now called PISTOIA.

PISTORINE, a Spaniſh coin. See MONEY, § .

PISTORIUS, John, M. D. and D. D. was born at Nidda, in 1546. He ſtudied medicine, and was admitted M. D. with applauſe; but his preſcriptions not being attended with ſucceſs, he quitted that profeſſion, and ſtudied the law. His merit procured him the appointment of counſellor to Ernſt Frederick margrave of Baden-Dourlach. He had embraced the Proteſtant religion; but ſome time after returned to the communion of the church of Rome. He became afterwards one of the emperor's counſellors, provoſt of the cathedral of Breſlaw and domeſtic prelate to the abbot of Fulda. He wrote 1. Several Controverſial Tracts againſt the Lutherans. 2. *Artis Cabaliſticæ Scriptores*, printed at Baſle, 1587; a ſcarce and curious collection. 3. *Scriptores rerum Polonicarum*. 4. *Scriptores de rebus Germanicis*, in 3 vols. folio, from 1603 to 1613. This is a curious and ſcarce performance. The author died in 1608, aged 52.

PISTOYA. See PISTOIA.

PISTRINA, a town of Servia, 48 miles SW. of Niſſa, and 100 E. of Raguſa.

PISTRITZER, a river of Upper Saxony, which runs into the Elbe, near the Wittenberg.

PISUERGA, a river of Spain, which riſes in the N. part of Old Caſtile, and runs into the Duero, 10 miles SW. of Valladolid.

PISUM, PEASE; a genus of the decandria order, belonging to the diadelphia claſs of plants and in the natural method ranking under the 32d order, *Papilionaceæ*. The ſpecies are,

1. PISUM AMERICANUM, commonly called *Cape-Horn pea*, with an angular trailing ſtalk, whoſe lower leaves are ſpear-ſhaped, ſharply indented, and thoſe at the top narrow pointed.

2. PISUM HUMILE, the *dwarf pea*, with an erect branching ſtalk and leaves having two pair of round lobes.

3. PISUM MARITIMUM, the *ſea pea*, with foot-ſtalks which are plain on their upper ſide, an angular ſtalk, narrow pointed ſtipulæ, and foot-ſtalks bearing many flowers.

4. PISUM OCHRUS, with membranaceous running foot-ſtalks, having two leaves and one flower upon a foot-ſtalk.

5. PISUM SATIVUM, the *greater garden pea*, whoſe lower ſtipulæ are roundiſh, indented, with taper foot-ſtalks, and many flowers on a foot-ſtalk. There is a great variety of garden peaſe now cultivated in Britain, which are diſtinguiſhed by the gardeners and ſeedſmen, and have their different titles; but as great part of theſe have been ſeminal variations, ſo if they are not very carefully managed, by taking away all thoſe plants which have a tendency to alter before the ſeeds are formed, they will degenerate into their original ſtate: therefore all thoſe perſons who are curious in the choice of their ſeeds, look carefully over thoſe which they deſign for ſeeds at the time when they begin to flower, and draw out all the plants which they diſlike from the other. This is what they call *roguing their peaſe*; meaning hereby the taking out all the bad plants from the good, that the farina of the former may not impregnate the latter; to prevent which, they always do it before the flowers open. By thus diligently drawing out the bad, reſerving thoſe which come earlieſt to flower, they have greatly improved their peaſe of late years, and are conſtantly endeavouring to get forwarder varieties; ſo that it would be to little purpoſe in this place to attempt giving a particular account of all the varieties now cultivated: therefore we ſhall only mention the names by which they are commonly known, placing them according to their time of coming to the table, or gathering for uſe: 1. *The golden hotſpur*. 2. *The Charlton*. 3. *The Reading hotſpur*. 4. *Maſter's hotſpur*. 5. *Eſſex hotſpur*. 6. *The dwarf pea*. 7. *The ſugar pea*. 8. *Spaniſh Morotto*. 9. *Nonpareil*. 10. *Sugar dwarf*. 11. *Sickle pea*. 12. *Marrowfat*. 13. *Roſe* or *crown pea*. 14. *Rouncival pea*. 15. *Gray pea*. 16. *Pig pea*; with ſome others.

6. PISUM UMBELLATUM, the *roſe* or *crown pea*, with 4 pointed acute ſtipulæ, and foot-ſtalks bearing many flowers, which terminate the ſtalks.

PISUS, the ſon of Pericres, and grandſon of Æolus, the founder of PISA. *Pauſ.* 15.

* PIT. *n. ſ.* [*pit*, Saxon.] 1. A hole in the ground.—

Tumble me into ſome loathſome *pit*. *Shak.*
Our enemies have beat us to the *pit*. *Shak.*

—*Pits* upon the ſea-ſhore turn into freſh water, by percolation of the ſalt through the ſand; but in ſome places of Africa, the water in ſuch *pits* will

will become brackiſh again. *Bacon.* 2. Abyſs; profundity.—

From the *pit* of Acheron
Meet me i' th' morning. *Shak.*
Into what *pit* thou ſeeſt
From what height fallen. *Milton.*

3. The grave.—Leſt I become like them that go down into the *pit*. *Pſalm* xxviii. 1. 4. The area on which cocks fight; whence the phraſe, to fly the *pit*.—

Make him glad, at leaſt, to quit
His victory, and fly the *pit*. *Hudibras.*

—They managed the diſpute as fiercely, as two game-cocks in the *pit*. *Locke.* 5. The middle part of the theatre.—

Let Cully, Cockwook, Fopling, charm the *pit*.
And in their folly ſhew the writers wit. *Dryd.*
Now luck for us, and a kind hearty *pit*. *Dryd.*

6. [*Pis*, *peis*, old Fr. from *pectus*, Lat.] Any hollow of the body: as, the *pit* of the ſtomach; the arm *pit*. 7. A dint made by the finger. 8. A mark by a diſeaſe.

* *To* PIT. *v. a.* 1. To preſs into hollows.—An anaſarca, a ſpecies of dropſy, is characteriſed by the ſhining and ſoftneſs of the ſkin, which gives way to the leaſt impreſſion, and remains *pitted* for ſome time. *Sharp.* 2. To mark with ſmall hollows, as by the ſmall-pox.

PITAHAIA, (*Cactus Pitajaya*, Lin. *Syſt. Vegetabilium. Jacquin Amer.* 151. ed. 2. p. 75 M. *E. Carthagena,*) a ſhrub peculiar to California, is a kind of beech, the fruit of which forms the greateſt harveſt of the natives. Its branches are finely fluted, and riſe vertically from the ſtem, ſo as to form a very beautiful top. The fruit is like a horſe-cheſnut. In ſome white, in others yellow, and in others red, but always exquiſitely delicious, being a rich ſweet, tempered with a grateful acid. See CACTUS.

PITANE, in ancient geography, a town of Aſia Minor, in Æolia, famous for bricks. *Lucan.* iii. 305.

PITANGUA GUACU. See BEMETRE.

* PITAPAT. *n. ſ.* [probably from *pas a pas*, or *patte patte*, Fr.] 1. A flutter; a palpitation.—A lion meets him, and the fox's heart went *pitapat*. *L'Eſtrange.* 2. A light quick ſtep.—Now I hear the *pitapat* of a pretty foot through the dark alley. *Dryden.*

PITAUTS. See BIDALDI.

PITCAIRNE, Archibald, M. D. a moſt eminent phyſician and ingenious poet, deſcended from the ancient family of the Pitcairnes of Pitcairne in Fifeſhire. He was born at Edinburgh on the 25th of December 1652. He commenced his ſtudies at Dalkeith: and thence removed to the univerſity of Edinburgh, where he improved himſelf in claſſical learning, and completed a regular courſe of philoſophy. The law ſeems to have been his own choice, and to this ſcience he turned his attention. With an ardour peculiar to himſelf, he purſued it with ſo much intenſeneſs, that his health began to be impaired. On this account, his phyſicians adviſed him to ſet out for the ſouth of France. By the time he reached Paris, he was happily ſo far recovered, that he determined to renew his ſtudies; but being informed that there was no able profeſſor of law in that city, and finding ſeveral gentlemen of his acquaintance engaged in the ſtudy of phyſic, he went with them to the lectures and hoſpitals, and employed himſelf in this manner for ſeveral months till his affairs called him home. On his return he applied himſelf chiefly to the mathematics. His intimacy with Dr D. Gregory, the celebrated mathematical profeſſor, began about this time. Pitcairne's progreſs in mathematics was rapid, and correſpondent to his other purſuits. His improvements on the method of infinite ſeries then adopted, which Dr Wallis of Oxford afterwards publiſhed, were a conſpicuous and early proof of his abilities in this ſcience. Had Dr Pitcairne continued to proſecute the ſtudy of the law, and could he have moulded his principles to the times, the firſt offices and honours of the law might have been looked for without preſumption as the probable reward of ſuch talents as he poſſeſſed. Struck, however, with the charms of mathematical truth, which had been lately introduced into the philoſophy of medicine, and hoping to reduce the healing art to geometrical method, he unalterably determined on this ſcheme of aſpiring profeſſion. In Edinburgh at that time there was no ſchool, no hoſpital, no opportunity of improvement but the chamber and the ſhop. He therefore ſoon returned to Paris, where he cultivated the object of his purſuit with his natural enthuſiaſm, and with a ſteadineſs from which he could not be diverted. On the 13th Aug. 1680 he received from the faculty of Rheims the degree of M. D.; which, on the 7th Aug. 1693, was likewiſe conferred on him by the univerſity of Aberdeen; both being attended with marks of peculiar diſtinction. Other medical honours were conferred on him in France and elſewhere; but nothing affords a more unequivocal teſtimony to his abilities than that which the ſurgeons of Edinburgh gave, in admitting him, freely and unſolicited, a member of their college. None had ſuch opportunities of judging of his merit as a practitioner, and on no phyſician did they ever beſtow the ſame public mark of reſpect. Soon after his graduation at Rheims, he returned to Edinburgh, where, on the 29th of November 1681, the Royal College of Phyſicians was inſtituted; and his name, among others, graced the original patent from the crown. In his *Solutio Problematis de Inventoribus*, the treatiſe above aluded to, he diſcovers a high degree of medical literature, and makes uſe of it to vindicate Dr Harvey's claim to the diſcovery of the circulation of the blood. During his reſidence in Scotland, his reputation became ſo conſiderable, that, in 1691, the univerſity of Leyden ſolicited him to fill the medical chair then vacant. Such an honourable teſtimony of reſpect, from a foreign nation, and from ſuch an univerſity, cannot perhaps be produced in the medical biography of Great Britain. Dr Pitcairne's well known political principles excluded him from promotion at home: he therefore accepted the invitation from abroad; and, on the 26th of April 1692, delivered, at Leyden, an elegant and maſterly inaugural oration: *Orationem qua oſtenditur medicinam ab omni philoſophorum ſecta eſſe liberam.* He diſcharged the duties of his office at Leyden ſo as to anſwer the moſt ſanguine expectations

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xpectations. He taught with a perſpicuity and loquence which met with univerſal applauſe. t the ſame time, he was not more celebrated as profeſſor than as a practical phyſician; and notithſtanding the multiplicity of his buſineſs in oth theſe characters, he found leiſure to publiſh veral treatiſes on the circulation, and ſome o- er of the moſt important parts of the animal e- nomy. Previouſly to this he had married a ughter of Col. James Hay of Pitfour, by whom had two children who died young. At the oſe of the ſeſſion he ſet out for Scotland, with intention of returning in time for the ſucceed- g one. On his marrying the daughter of Sir rchibald Stevenſon, the object of his journey, her lations would on no account conſent to part with m again. He was therefore reluctantly obliged remain; and he wrote the univerſity a polite ology, which was received with the utmoſt re- ct. He even declined the moſt flattering ſolici- tions and tempting offers to ſettle in London. ndeed he ſoon came into that extenſive practice which his abilities entitled him, and was alſo ppointed titular profeſſor of medicine in the u- verſity of Edinburgh. In a ſcience ſo ſlowly ogreſſive as that of medicine, Dr Pitcairne did great deal. By labouring in vain for truth in ne road, he ſaved many the ſame drudgery, and ereby ſhowed the neceſſity of another. He not nly exploded many falſe notions of the chemiſts nd Galeniſts, which prevailed in his time, but many of thoſe too of his own ſect. In particular, he ſhowed the abſurdity of referring all diſeaſes nd their cures to an alkali or an acid. He refut- d the idea of ſecretion being performed by pores ifferently ſhaped, Bellini's opinion of efferveſ- ences in the animal ſpirits with the blood, and orelli's of air entering the blood by reſpiration. le proved the continuity of the arteries and ins; and ſeems to have been the firſt who owed that the blood flows from a ſmaller capa- ity into a larger; that the aorta, with reſpect o the arterial ſyſtem, is the apex of a cone. In is therefore he may be conſidered as the latent ing of the diſcoveries reſpecting the powers moving the blood. He introduced a ſimplicity f preſcription unknown in pharmacy before his ime; and ſuch was the ſtate of medicine in this ountry, that ſcarcely have the works of any co- emporary or preceding author been thought orthy even of preſervation. As to the errors of is philoſophy, let it be remembered, that no heory has as yet ſtood the teſt of many years in n enlightened period. His own hung very looſely bout him; and the preſent generally received ractice differs from his very little in reality. He reated inflammatory and hemorragic diſeaſes by leeding, purging, and bliſtering, as has been done nformly and ſolely on the different theories ince. His method of adminiſtering mercury and he bark is obſerved at this day; and with reſpect o febrile, nervous, glandular, and dropſical affec- ions, they ſeem to be as often the opprobriums of the art now as they were then. Dr Pitcairne was univerſally conſidered as the firſt phyſician of his time. No one appears ever to have had ſo much practice in this country, or ſo many con- ſultations from abroad; and no one from all ac- counts, ever practiſed with greater ſagacity and ſucceſs. The emoluments of his profeſſion muſt have been great; but his charities are known to have been correſpondent. The poſſeſſion of mo- ney he poſtponed to more liberal objects: he col- lected one of the fineſt private libraries in the world; which was purchaſed, after his death, by the Czar of Muſcovy. Notwithſtanding the fa- tigues he underwent in the exerciſe of his profeſ- ſion, his conſtitution was naturally delicate. A- bout the beginning of October 1713, he became affected with his laſt illneſs; and on the 23d he died, regretted by ſcience as its ornament, by his country as its boaſt, and by humanity as its friend. The preſent noble family of Kelly are his deſcendants. Some anonymous publications are attributed to Dr Pitcairne, particularly a treatiſe *De Legibus Hiſtoriæ Naturalis*, &c.; but the only ones he thought proper to legitimate are his *Diſ- ſertationes Mediæ*, and a ſhort eſſay *De Sälute*.

PITCAIRN-GREEN, a village of Perthſhire, in the pariſh of Redgorton.

PITCAIRN'S ISLAND, an iſland in the S. Pacific O- cean, 6 or 7 miles long and 2 broad. It has neither river nor harbour, but high mountains, which are viſible at 45 miles diſtance. All the S. coaſt is rocky. Lon. 133. 21. W. Lat. 25. 2. S.

PITCAITHLY. See PITKEATHLY.

(1.) * PITCH. *n. ſ.* [*pic*, Sax. *pix*, Lat.] 1. The reſin of the pine extracted by fire and inſpiſſa- ted.—They that touch *pitch* will be defiled. *Prov.*

A rainy vapour
Comes on as blacke as *pitch*. *Chapman.*

—Of air and water mixed together, and conſum- ed with fire, is made a black colour; as in char- coal, oil, *pitch*, and links. *Peacham.*—

A veſſel ſmear'd round with *pitch*. *Milton.*

2. [From *pitch*, Fr. *Skinner.*] Any degree of elevation or height.—

Weak ſhe makes ſtrong, and ſtrong things does increaſe,
Till it the *pitch* of higheſt praiſe exceeds. *Spenſ.*
How high a *pitch* his reſolution ſoars. *Shak.*
Mount aloft with thy imperial miſtreſs,
And mount her *pitch*. *Shak. T. Andron.*
Between two hawks, which flies the higher *pitch*,
I have, perhaps, ſome ſhallow judgment. *Shak.*
That greate worke maintaines a *pitch* above
All mortal powers. *Chapman.*
Driv'n headlong from the *pitch* of heaven, down
Into this deep. *Milton's Par. Loſt.*

—Others expectation was raiſed to a higher *pitch* than probably it would. *Hammond.*—

Cannons ſhoot the higher *pitches*,
The lower we let down their breeches. *Hudib.*

—Alcibiades was one of the beſt orators of his age, notwithſtanding he lived at a time when learn- ing was at the higheſt *pitch*. *Addiſon's Whig Ex- aminer.* 3. Higheſt riſe. Not uſed.—

A beauty waining, and diſtreſſed widow,
Seduc'd the *pitch* and height of all his thoughts
To baſe declenſion. *Shak*

4. State with reſpect to lowneſs or height.—

From this high *pitch* let us deſcend. *Milt.*

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By how much from the top of wond'rous glory,
To loweſt *pitch* of abject fortune fall'n. *Milt.*

5. Size; ſtature.—
That infernal monſter—
'Gan high advance his broad diſcoloured breaſt
Above his wonted *pitch*. *Spenſer.*
It is of ſuch a ſpacious lofty *pitch*,
Your roof were not ſufficient to contain it. *Shak.*
So like in perſon, garb and *pitch*,
'Twas hard t' interpret which was which. *Hud.*

6. Degree; rate.—
Manſlaughter ſhall be held the higheſt *pitch*
Of human glory. *Milton.*
Our reſident Tom
From Venice is come,
Talks at the ſame *pitch*,
Is as wiſe is as rich. *Denham.*
No *pitch* of glory from the grave is free. *Waller.*
—Evangelical innocence amounts to ſuch a *pitch* of righteouſneſs, as we call ſincerity. *South.*—When the ſun's heat is thus far advanced, 'tis but juſt come up to the *pitch* of another ſet of vegetables. *Woodward's Nat. Hiſt.*

(2.) PITCH (ſ. f. 1.) is a tenacious oily ſubſtance drawn chiefly from pines and firs, and uſed in ſhipping, medicine, and various arts: it is more properly tar inſpiſſated by boiling it over a ſlow fire. See TAR. The beſt black pitch is made of the refuſe of roſin and turpentine, ſuch as will not paſs through the ſtraw ſifter, and the cuttings around the inciſion on the tree. Theſe materials are put into a boiler 6 or 7 feet in circumference, and 8 or 10 feet high. Fuel is laid around the top, and the materials, as they melt, flow thro' a channel cut in the fire-place into a tub half filled with water. It is then very red and almoſt liquid. To give this a proper conſiſtence, it is put in a cauldron placed in a furnace, and boiled down in the ſame manner as roſin, but it requires much leſs precaution and double the time. It is then poured into moulds of earth, and forms the beſt black pitch.

(3.) PITCH, BASTARD, a mixture of colophony, black pitch, and tar. They are boiled down together and put into a barrel of pine wood, forming, when mixed in equal portions, a very liquid ſubſtance called in France *bray gras*. If it is defired of a thicker conſiſtence, a greater proportion of colophony is added, and it is caſt into moulds.

(4.) PITCH, FOSSIL, or } See MINERALOGY,
(4.) PITCH, MINERAL. } *Part* II. *Chap.* VI. *Gen.* III. *Sp.* 4. and PETROLEUM.

(5.) PITCH STONE. See MINERALOGY, *Part* II. *Chap.* IV, *Claſs* I. *Ord.* I. *Gen.* II. *Sp.* 5.

(1.) * *To* PITCH. *v. a.* preterite *pitched*, participle *pitched*, anciently *pight*. See PIGHT. [*appicciare*, Italian.] 1. To fix; to plant.—
On Dardan plains the Greeks do *pitch*
Their brave pavilions. *Shak. Troil. and Creſſ.*
Sharp ſtakes, pluckt out of hedges,
They *pitched* in the ground. *Shak. Henry* VI.
He counſelled how to hunt his game,
What dart to caſt, what net, what toil to *pitch*. *Fairfax.*
Mahometes *pitched* his tents in a little meadow. *Knolles.*
When the victor
Had conquer'd Thebes, he *pitch'd* upon the plain
His mighty camp. *Dryden's Knight's Tale.*
To Chaſſis' pleaſing plains he took his way,
There *pitch'd* his tents. *Dryden.*
Their proud foes in *pitch'd* pavilions lay. *Dryden.*

2. To order regularly.—He deſcribeth the manner how to *pitch* a field. *Hooker.*—One *pitched* battle would determine the fate of the Spaniſh continent. *Addiſon.* 3. To throw headlong; to caſt forward.—
They'll not *pitch* me i' th' mire. *Shak. Temp.*
—They would wreſtle, and *pitch* the bar for a whole afternoon. *Spectator.* 4. To ſmear with PITCH. [*picio*, Lat. from the noun.]—
The *pitched* veſſels glide with eaſy force. *Dryden.*
—Some *pitch* the ends of the timber in the wall to preſerve them from the mortar. *Mason's Mechan. Ex.*—I *pitched* over the convex very thinly by dropping melted pitch upon it. *Newton's Opticks*, 5. To darken.—
The air hath ſtarv'd the roſes in her cheeks,
And *pitch'd* the lily tincture of her face. *Shak.*
Soon he found
The welkin *pitch'd* with ſullen cloud. *Addiſon.*

6. To pave. *Ainſworth.*

(2.) * *To* PITCH. *v. n.* 1. To light; to alight. —Take a branch of the tree whereon they ſit, and wipe the hive clean. *Mortimer.* 2. To fall headlong.—
Forward he flew, and *pitching* on his head,
He quiver'd with his feet, and lay for dead. *Dryden.*

3. To fix choice: with *upon*.—
They're all alike, yet we ſhall *pitch*
On one that fits our purpoſe. *Hudibras.*
—A free agent will *pitch upon* ſuch a part in his choice. *More.*—I *pitched upon* this conſideration that parents owe their children ſpiritual conſideration to their mind. *Digby.*—The covetous man came by degrees to *pitch upon* one thing after another. *L'Eſtrange.*—*Pitch upon* the beſt courſe of life, and cuſtom will render it the moſt eaſy. *Addiſon.*—I tranſlated Chaucer, and amongſt the reſt *pitched on* the wife of Bath's tale. *Dryden.* 4. To fix a tent or temporary habitation.—They *pitched* by Emmaus in the plain. 1 *Mac.* iii. 40.

* PITCHER. *n. ſ.* [*picher*, French.] 1. An earthen veſſel; a water pot.—
With ſuddain fear her *pitcher* down ſhe threw,
And fled away. *Spenſer.*
Pitchers have ears, and I have many ſervants. *Shak.*
We read of kings, and gods, that kindly took
A *pitcher*, fill'd with water, from the brook. *Cartwright.*
—Pyreicus was only famous for counterfeiting baſe things; as earthen *pitchers* and a ſcullery. *Peacham on Drawing.*—
Hylas may drop his *pitcher*, none will cry. *Dryden.*

2. An inſtrument to pierce the ground in which any thing is to be fixed.—To the hills poles muſt be

ſet deep in the ground, with a ſquare iron *pit-r* or crow. *Mort. Huſb.*

PITCHFORK. *n. ſ.* [*pitch* and *fork.*] A fork h which corn is thrown upon the waggon.—old lord in Leiceſterſhire amuſed himſelf with nding *pitchforks* and ſpades. *Swift.*

PITCHINESS. *n. ſ.* [from *pitchy.*] Blackneſs; kneſs.

PITCHING, *n. ſ.* in ſea-affairs, may be defined vertical vibration which the length of a ſhip es about her centre of gravity; or the move-t by which ſhe plunges her head and after-part nately into the hollow of the ſea. This mo- may proceed from two cauſes: the waves ch agitate the veſſel; and the wind upon the s, which makes her ſtoop to every blaſt thereof. ; firſt abſolutely depends upon the agitation of ſea, and is not ſuſceptible of inquiry; and the nd is occaſioned by the inclination of the ls, and may be ſubmitted to certain eſtabliſh-naxims. When the wind acts upon the ſails, maſt yields to its effort, with an inclination ch increaſes in proportion to the length of the ; to the augmentation of the wind, and to the parative weight and diſtribution of the ſhip's ng. The repulſion of the water, to the effort ravity, oppoſes itſelf to this inclination, or at ſuſtains it, by as much as the repulſion ex-s the momentum, or abſolute effort of the upon which the wind operates. At the of each blaſt, when the wind ſuſpends its ac-, this repulſion lifts the veſſel; and theſe ſuc-ive inclinations and repulſions produce the ement of pitching, which is very inconvenient; when it is conſiderable, will greatly retard courſe, as well as endanger the maſt, and the veſſel.

PITCHY. *adj.* [from *pitch.*] 1. Smeared with h.—

The planks, their *pitchy* cov'rings waſh'd away,
ow yield. *Dryden.*

having the qualities of pitch.—Native petro-m is no other than this very *pitchy* ſubſtance, ſe forth of the ſtrata by the water. *Woodward Foſſ.* 3. Black; dark; diſmal.—

Night is fled,
Thoſe *pitchy* mantle over-veil'd the earth. *Shak.*
I will ſort a *pitchy* day for thee. *Henry VI.*
Pitchy and dark the night ſometimes appears. *Prior.*

* PITCOAL. *n. ſ.* [*pit* and *coal.*] Foſſile —The beſt fuel is peat, the next charcoal of *pitcoal* or cinders. *Mort. Huſb.*

PIT-COAL, or STONE COAL. See CHEMIS-*Index*; COAL, LITHANTHRAX, MINERA-, *Part* II. *Chap.* VI. *Gen.* IV. *Part* III, *Chap.* and XYLANTHRAX. Mr Bertrand, redu-l kinds of coals to ſix general claſſes, *viz.* thanthrax ligneus; 2. Petroſus; 3. Terreſ-4. Piceus; 5. Fiſſilis; 6. Mineraliſatus. He that the Scots coals are heavier, and burn well as thoſe of Newcaſtle; that thoſe of burn quicker; and thoſe from Braſſac in rgne, and from La Foſſe, burn with a more ableflame, &c. But Mr Morand, in his *Nomen-e Raiſonnée*, diſtributes all ſorts of pit-coals in-claſſes: In the firſt he places nine varieties, beginning with the *gagas* or *ſuccinum nigrum*, to the variegated lithanthrax; in the ſecond he reckons 7 varieties, beginning with the *lithanthrax eleganti ſtructura*, to that *facie granulata*: and he forms the 4th claſs with the earthy and poorer kinds of foſſil coals. He ſeems, however, to have been puzzled with the ſlaty coals, as he ranges them in a ſeparate claſs, perhaps to ſhelter himſelf from the critical objections of thoſe numerous ſuperficial naturaliſts, who only look for the apparent configuration, without almoſt any regard to the component parts of foſſils. The coal-trade is of infinite importance to Great Britain, which never could have arrived at its preſent commercial eminence without it; and this eminence it will be impoſſible to retain if coal ſhould ever become ſcarce. This we truſt is not likely to be the caſe, though Mr Williams expreſſes great fears for it, and informs us that at Newcaſtle and in many parts of Scotland the mines near the ſea are already waſted, the firſt conſequence of which muſt be an enormous riſe in the price. See his obſervations on this ſubject in his *Natural Hiſtory of the Mineral Kingdom*, p. 156, &c. This author ſays, that coal was not diſcovered till between the middle of the 12th and beginning of the 13th centuries: it is therefore, according to him, 400 years ſince it was firſt diſcovered in Britain, but they have not been in common uſe for more than 200 years. The ſame author gives us many pertinent obſervations on the appearances and indications of coal, inſtructions about ſearching for it, remarks on falſe and doubtful ſymptoms of coal; for all which, together with his obſervations on the different kinds of Scots coal, we refer our readers to the work itſelf; the firſt part of which, occupying the largeſt proportion of the firſt volume, is upon the *ſtrata of coal*, and on the *concomitant ſtrata*. See alſo COALERY.

PITEA. See PITHEA, N° 1—4.

PITEOU, an iſland, near the coaſt of China. Lon. 137. 0. E. of Ferro. Lat. 25. 20. N.

* PITEOUS. *adj.* [from *pity.*] 1. Sorrowful; mournful; exciting pity.—

When they heard that *piteous* ſtrained voice,
In haſte forſook their rural merriment. *Spenſer.*
The moſt arch deed of *piteous* maſſacre,
That ever yet this land was guilty of. *Rich. III.*
Which when Deucalion with a *piteous* look
Beheld, he wept. *Dryden.*

2. Compaſſionate; tender.—

Piteous transfer it to the mournful ſwain. *Prior.*
She gave him, *piteous* of his caſe,
A ſhaggy tap'ſtry. *Pope's Dunciad.*

3. Wretched; paltry; pitiful.—

Piteous amends! unleſs
Be meant our grand foe. *Milt. Par. Loſt.*

* PITEOUSLY. *adv.* [from *piteous.*] In a piteous manner.—

Ruthful to hear, yet *piteouſly* perform'd. *Shak.*

* PITEOUSNESS. *n. ſ.* [from *piteous.*] Sorrowfulneſs; tenderneſs.

* PITFALL. *n. ſ.* [*pit* and *fall.*] A pit dug and covered, into which a paſſenger falls unexpectedly.

Poor bird! thou'ſt never fear the net nor lime,
The *pitfall*, nor the gin. *Shak. Mach.*

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—Thieves dig concealed *pitfalls* in his way. *Sandys.*
—These hidden *pitfalls* were set thick at the entrance of the bridge. *Addison.*

(1.) * PITH. *n. s.* [*pitte*, Dutch.] 1. The marrow of the plant; the soft part in the midst of the wood.—If a cion, fit to be set in the ground, hath he *pith* finely taken forth, and not altogether, but some of it left, it will bear a fruit with little or no core. *Bacon's Nat. Hist.*—

Her solid bones convert to solid wood,
To *pith* her marrow, and to sap her blood.
Dryden.

2. Marrow.—

As doth the *pith*, which lest our bodies slack,
Strings fast the little bones of neck and back;
So by the soul doth death string heav'n and earth.
Donne.

—The vertebres are all perforated in the middle, with a large hole for the spinal marrow or *pith* to pass along. *Ray.* 3. Strength; force.—*Pith* in Scotland is still retained as denoting strength, either corporeal or intellectual: as, that defies all your *pith*.—

Guarded with grandsires, babies and old women,
Or pass'd, or not arriv'd to *pith* and puissance.
Shak.

Since these arms of mine had seven years *pith*.
Shak.

4. Energy; cogency; fulness of sentiment; closeness and vigour of thought and style. 5. Weight; moment; principal part.—

That's my *pith* of business. *Shak.*
Enterprizes of great *pith* and moment. *Shak.*

6. The quintessence; the chief part.—

The owner of a foul disease,
To keep it from divulging, lets it feed
Ev'n on the *pith* of life. *Hamlet.*

(2.) PITH, in vegetation, is the soft spongy substance contained in the central parts of plants and trees.

(1.) PITHEA, PETA, or PITEA, a province of Swedish Lapland, bounded on the N. by Lula, or Luhlia, E. by Bothnia, S. by Uhma or Elma, and W. by Norway.

(2.) PITHEA, a river which runs across the above province, and falls into the Gulf of Bothnia.

(3.) PITHEA, or PITEA, the capital of the above province, (N° 1.) is seated at the mouth of the river (N° 2.) on a small island which is joined to the continent by a wooden bridge. It has a good harbour and a school, the streets run in parallel lines, but the church is on the other side of the bridge. It is 80 miles SW. of Tornea. Lon. 22. 40. E. Lat. 65. 11. N.

(4.) PITHEA, OLD, a town in the above province, 3 miles above Pithea, which was built by Gustavus Adolphus in 1621, but was totally burnt in 1666; on which the new town (N° 3.) was built at the mouth of the river. Old Pithea, however, is now a large village, consisting of a great number of houses, scattered irregularly on a fine common.

PITHECUSA, an island of Italy, on the coast Etruria, anciently called ÆNARIA, with a town so named on the top of a mountain. It was subject to earthquakes and had a volcano; which led mythologists to say, that the giant Typhon was buried alive under the mountain, and struggled in such times to throw off his burden. *Ovid. Fast.* &c.

* PITHILY. *adv.* [from *pithy*.] With strength; with cogency; with force.

* PITHINESS. *n. s.* [from *pithy*.] Energy; strength.—No less deserveth his wittiness in devising, his *pithiness* in uttering, his compliant of love so lovely. *Spenser.*

PITHIVIERS, a town of France, in the dep. of the Loire; 21 miles ENE. of Orleans, and 9 NW. of Montargis.

* PITHLESS. *adj.* [from *pith*.] 1. Wanting pith, wanting strength.—

Weak shoulders over-born with burthening grief
And *pithless* arms.

2. Wanting energy; wanting force.

PITHO, in the mythology, the goddess of persuasion among the Romans, the daughter of Mercury and Venus. She was represented with a diadem on her head, to intimate her influence over the hearts of man. One of her arms appeared raised as in the attitude of an orator haranguing in a public assembly; and with the other she holds a thunderbolt and fetters, made with flowers, to signify the powers of reasoning and the attractions of eloquence. A caduceus, as a symbol of persuasion, appears at her feet, with the writings of Demosthenes and Cicero, the two most celebrated orators among the ancients, who understood how to command the attention of their audience, and to rouse and animate their various passions.

PITHOEUS. See PITHOU.

PITHOLAUS, and LYCOPHRON, two noble of Pheræ, who killed the tyrant Alexander, and seized the kingdom; but were expelled by Philip II. of Macedon.

PITHOM, one of the cities which the Israelites built for Pharaoh in Egypt (Exod. i. 11.) during their servitude. This is probably the same city with *Pathumos*, mentioned by Herodotus, which he places upon the canal made by the kings Necho and Darius to join the Red Sea with the Nile and consequently with the Mediterranean. This was an arm of the Nile called *Pathmeticus*, *Phamiticus*, *Phatnicus*, or *Phatniticus*. Bochart says that Pithom and Raamses are about five leagues above the division of the Nile, and beyond this river: but this assertion has no proof from antiquity. Marsham will have Pithom to be the same PELUSIUM or DAMIETTA.

PITHOU, or PITHŒUS, Peter, a French lawyer of great literary eminence, descended of an ancient and noble family in Normandy, and born at Troyes in 1539. He first studied at Troyes, and afterwards at Paris, where he became the scholar and friend of Turnebus. Having acquired the languages and belles lettres, he was placed under Jacius at Bourges to study civil law, and accompanied him to Valence. In 1560, he returned to Paris. In 1563, he published *Adversaria Subsecivorum*, which laid the foundation of that great and extensive fame he afterwards acquired. Soon after this Henry III. advanced him to some considerable posts; in which, as well as at the bar, he acquitted himself most honourably. Either through these favours or through fear, he abjured the

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tant religion, and embraced the Catholic. He erwards attended the duke of Montmorency in England. Henry III. and IV. were greatly oged to him for combating the League in the ift intrepid manner, and for many other ſervices. hœus died upon his birth-day in 1596, leaving ind him a wife whom he had married in 1579, l ſome children. Thuanus ſays he was the ift accompliſhed man of the age in which he ed. He collected a very valuable library, conaing a variety of rare M.SS. as well as printed ks. He publiſhed a great number of works on law, hiſtory, and claſſical literature; and he e ſeveral new and correct editions of ancient iters. He was the firſt who made the world acainted with the Fables of Phædrus: which, toher with the name of their author, were utterunknown and unheard of, till publiſhed from a . S. of his.

* PITHY. *adj.* [from *pith.*] 1. Conſiſting of h.—The *pithy* fibres brace and ſtitch together ligneous in a plant. *Grew's Coſmol.*—

The Herefordian plant that likes
I' approach the quince, and th' elder's *pithy* ſtem. *Philips.*

Strong; forcible; energetick.—

Yet the with *pithy* words, and counſel ſad,
Will ſtrove their ſudden rages to revoke. *Spenſer.*

I muſt begin with rudiments of art,
More pleaſant, *pithy* and effectual,
Than hath been taught by any. *Shak.*

Many rare *pithy* ſaws concerning
The worth of aſtrologic learning. *Hudibras.*

This *pithy* ſpeech prevail'd, and all agreed. *Dryden.*

Goodman Fact was very ſhort, but *pithy*. *Addiſ.*

PITHYNIA, an ancient name of CHIOS.

PITHYUSA. See MILETUS, N° 2.

PITI, a town of Thibet, 204 miles S. of Latac.

* PITIABLE. *adj.* [*pitoyable*, Fr. from *pity*.] Deſerving pity.—The *pitiable* perſons relieved, are plainly under your eye. *Atterbury.*

* PITIABLENESS. *n. ſ.* [from *pitiable.*] State of deſerving pity.—For the *pitiableneſs* of his ignorance and unwilled miſtake, his neglect thereof may be excuſed. *Kettlewell.*

* PITIFUL. *adj.* [*pity* and *full.*] 1. Melancholy; moving compaſſion.—Some, who have not deſerved judgment of death, have been for their good's ſake caught up and carried ſtraight to the bough; a ſight indeed very *pitiful* and horrible. *Spenſer.*—

A ſight moſt *pitiful* in the meaneſt wretch,
Paſt ſpeaking of in a king. *Shak. King Lear.*

All ſwoln and ulc'rous, *pitiful* to the eye;
The mere deſpair of ſurgery he cures. *Shak.*

Will he his *pitiful* complaints renew? *Sandys.*

Conſider what a *pitiful* condition we had been in. *Ray on the Creat.* 2. Tender; compaſſionate.

Would my heart were flint, like Edward's,
Or Edward's ſoft and *pitiful*, like mine. *Shak.*

Be *pitiful* to my condemned ſons. *Shak.*

Paltry; contemptible; deſpicable.—That's vilainous, and ſhews a moſt *pitiful* ambition. *Shak.*—One, in a wild pamphlet, beſides other *pitiful* magnifies, would ſcarce allow him to be a gentleman. *Wotton.*—This is the doom of fallen man, perhaps to ſpin out his days and himſelf into one *pitiful* controverted concluſion. *South.*—Sin can pleaſe no longer, than for that *pitiful* ſpace of time while it is committing. *South.*—If theſe *pitiful* ſhanks were anſwerable to this branching head, I ſhould defy all my enemies. *L'Eſtrange.*—What entertainment can be raiſed from ſo *pitiful* a machine, where we ſee the ſucceſs of the battle from the beginning. *Dryden's Ded. to Juv.*

* PITIFULLY. *adv.* [from *pitiful.*] 1. With pity; with compaſſion.—*Pitifully* behold the ſorrows of our hearts. *Comm. Prayer.* 2. Mournfully; in a manner that moves compaſſion.—

He beat him moſt *pitifully*. *Shak.*

—When any great evil has been upon them, they would ſigh and groan as *pitifully* as other men. *Tillotſon.* 3. Contemptibly; deſpicably.—Thoſe men, who give themſelves airs of bravery on reflecting upon the laſt ſcenes of others, may behave the moſt *pitifully* in their own. *Clariſſa.*

* PITIFULNESS. *n. ſ.* [from *pitiful.*] 1. Tenderneſs; mercy; compaſſion.—Baſilius giving infinite terms of praiſes to Zelmane's valour in conquering, and *pitifulneſs* in pardoning, commanded no more words to be made of it. *Sidney.* 2. Deſpicableneſs; contemptibleneſs.

PITIGLIANO, a town and fortreſs of Etruria, 23 miles ENE. of Orbitello.

PITIHEMPO, a mountain of Aſia, in Thibet, which bounds that country on the NW.

* PITILESLY. *adv.* [from *pitileſs.*] Without mercy.

* PITILESNESS. *n. ſ.* Unmercifulneſs.

* PITILESS. *adj.* [from *pity.*] Wanting pity; wanting compaſſion; mercileſs.—

Fair be ye ſure, but proud and *pitileſs*,
As is a ſtorm. *Spenſer.*

Hadſt thou in perſon ne'er offended me,
Even for his ſake am I now *pitileſs*. *Shak.*

My chance, I ſee,
Hath made ev'n pity *pitileſs* in thee. *Fairfax.*

Upon my livid lips beſtow a kiſs,
Nor fear your kiſſes can reſtore my breath;
Even you are not more *pitileſs* than death. *Dryd.*

PITISCUS, Samuel, a learned antiquary, born at Zutphen, was rector of the college of that city, and afterwards of St Jerome at Utrecht, where he died, Feb. 1, 1717, aged 90. He wrote, 1. *Lexicon Antiquitatum Romanorum*, in 2 vols. folio; a work which is eſteemed. 2. Editions of many Latin authors, with notes; and other works.

PITKEATHLY, or PITCAITHLY, a village of Perthſhire, in Strathearn, in the pariſh of Dumbarny, about 5 miles SW. of Perth, famous for its mineral waters. The village and the wells are in a ſituation truly rural and romantic; and the accommodations for the invalids are good. Of the waters, the following account is given by the rev. Mr David Beatſon, in his Statiſtical Account of the pariſh: (Vol. VIII. p. 405.)—"The mineral waters of Pitkeathly, which have long been famed for their efficacy in curing or alleviating the ſcrophula, ſcurvy, gravel, &c. are ſituated in this pariſh. This mineral is gentle in its operation, has an agreeable effect in relieving the ſtomach of crudities, procuring an appetite, and exhilarating the ſpirits; and, inſtead of weakening, tends to ſtrengthen the conſtitution. The water is of a cooling quality, and very efficacious in removing all heat and foulneſs of the blood. It is uſed both for

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for drinking and bathing. In ſome caſes the warm bath has the moſt ſalutary effect, eſpecially in ſcrophulous and ſcorbutic complaints; but ſhould be uſed with caution, as it tends to weaken, if made too warm, or uſed too frequently. The time, when this mineral was diſcovered, cannot be aſcertained; even tradition ſays nothing of its firſt diſcovery. There are five diſtinct ſprings, all of the ſame quality, but of different degrees of ſtrength. In 1771, ſome experiments were made on one of the mineral ſprings, by Dr Donald Monro of London, which, in 1772, together with a letter from the late Dr Wood of Perth, on the ſame ſubject, were publiſhed in the 62d vol. of the *Philoſ. Tranſ.* This year, (1792,) Meſſrs Stoddart and Mitchel, druggiſts in Perth, have, with much attention and accuracy, analized the ſeveral ſprings. The following table is the reſult of their experiments:

A TABLE ſhewing the contents in a wine gallon of each of the mineral waters of the eſtates of PITKEATHLY and DUMBARNY.

	NAMES OF THE WATERS.					
	Eaſt Well.	Weſt Well.	Sprout Well.	Dumbarny Well.	South Pack Well.	
Atmoſpheric air,	4	4	4	4	4	cubic inch.
Carbonic acid gaz,	8	8	6	5	5	cubic inch.
Carbonate of lime,	5	5½	5	5½	5	grains.
Sulphate of lime,	5½	5	3½	3	3	grains.
Muriate of ſoda,	100	92	82	57	44	grains.
——— of lime,	180	168	146	102	84	grains.
Specific gravity of a gallon of each more than diſtilled water,	216	198	172	124	98	grains.

PITLAR, a town of Ruſſia, in Tobolſk.

PITLOCHRY, a village of Perthſhire, in Moulin pariſh, on the road from Perth to Inverneſs, 6 miles from Killicrankie; containing 160 ſouls in 1793.

PITLUNDY, a lake of Scotland, in Roſs-ſhire.

* PITMAN. *n. ſ.* [*pit* and *man.*] He that in ſawing timber works below in the pit.—With the pitſaw they enter the one end of the ſtuff, the topman at the top, and the *pitman* under him: the topman obſerving to guide the ſaw exactly, and the *pitman* drawing it with all his ſtrength perpendicularly down. *Moxon.*

PITOC, a town of Thibet, 24 m. NW. of Latac.

PITOLO, a town of the Italian republic, in the dep. of the Mincio, diſtrict and late duchy of Mantua; 2 miles SE. of Mantua.

PITORA, a river of ANOSSI.

PITOT, Henry, F. R. S. a learned writer, of a noble family in Languedoc, born at Aramont, on the 29th May, 1695. He acquired mathematics without a maſter, and went to Paris in 1718, where he formed a cloſe friendſhip with the illuſtrious Reaumur. In 1724, he was admitted a member of the Royal Academy of Sciences at Paris, and in a few years roſe to the degree of a penſioner. Beſides a vaſt number of Memoirs printed in the collection of that ſociety, he publiſhed in 1731, *The Theory of the Working of Ships*, in 1 vol. 4to; a work of conſiderable merit, which was tranſlated into Engliſh, and procured the author to be admitted into the Royal Society of London. In 1740, the ſtates general of Languedoc appointed him their chief engineer, and inſpector general of the canal. That country is indebted to him for ſeveral monuments of his genius. He ſupplied Montpelier with water, by a noble aqueduct. (See MONTPELIER.) The illuſtrious Marſhal de Saxe was the great patron and friend of Pitot, who had taught this hero the mathematics. In 1731 he married Maria-Leonina Pharambier de Sabloniere, deſcended of a very ancient noble family of Navarre, by whom he had one ſon, who was treaſurer-general of the Court of Accounts, Aids, and Finances of Montpellier. Pitot was a practical philoſopher, and a man of uncommon probity and candour. He was alſo a member of the Royal Society of Sciences of Montpellier. He died at Aramont, 27th Dec. 1771, aged 76.

PITQUIN, a town of Mexico, in New Navarre, 270 miles NW. of Cinaloa.

PITRIOWIN, a town of Poland, in Lublin, 32 miles SW. of Lublin.

PITS, John, a celebrated biographer, born in 1560, at Aulton in Hampſhire, and educated at Wykeham's ſchool, near Winchester, till he was 18 years of age; when he was ſent to New College in Oxford, and admitted probationer fellow. Having continued in that univerſity near two years, he left the kingdom as a voluntary Romiſh exile, and retired to Douay; from thence he went to the Engliſh college at Rheims, where he remained about a year; and then proceeded to Rome, where he continued a member of the ſame college near 7 years, and was made a prieſt. In 1589, he returned to Rheims; and there, during two years, taught rhetoric and Greek. He then quitted Rheims on account of the civil wars in France; and retired to Pont à Mouſſon in Lorrain, where he took the degrees of M. A. and B. D. Hence he travelled into Germany, and reſided a year and a half at Triers, where he commenced licentiate. From Triers he viſited ſeveral of the principal cities in Germany; and continuing three years at Ingoldſtadt in Bavaria, took the degree of D. D. Thence having made the tour of Italy, he returned once more to Lorrain; where he was patroniſed by the cardinal of that duchy, who preferred him to a canonry of Verdun; and about 2 years after he became confeſſor to the ducheſs of Cleves, daughter to the Duke of Lorrain. While in this employment, he wrote in Latin the lives of the kings, biſhops, apoſtolical men, and writers of England. The laſt of theſe, commonly known and quoted by this title, *De illuſtribus Angliæ ſcriptoribus*, was publiſhed after his death. The three firſt ſtill remain in M. S. among the archives of the collegiate church of Liverdun. The duke of Cleves dying after Pits had been about 12 years confeſſor to the ducheſs, ſhe returned to Lorrain, attended by our author, who was promoted to the deanery of Liverdun, which, with a canonry

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id officialſhip, he enjoyed to the end of his life. e died in 1616, and was buried in the collegiate urch. He is accuſed of partiality to the Roiſh writers.

* PIT-SAW. *n. ſ.* [*pit* and *ſaw*.] The large ſaw ed by two men, of whom one is in the pit.— ne *pitſaw* is not only uſed by thoſe workmen t ſaw timber and boards, but is alſo for ſmall ttters uſed by joiners. *Moxon's Mechan. Exer.*

PITSCHEN, a town of Sileſia, in Brieg. It was mt by the Poles in 1588; and again ſacked in 17 and 1633. It has a college and 2 churches, l is 30 miles NE. of Brieg, and 42 E. of Breſ. Lon. 18. 22. E. Lat. 51. 10. N.

PITSEY, a town of Eſſex, near N. Benfleet, ich gives name to a creek of the Thames.

PITSIE, a town of China, in Koe-teheou.

PITSLIGO, a pariſh of Scotland, in Aberdeenre, of a rectangular form, 3½ miles long from o W. and 3 broad from the S. to the coaſt. eaſtern extremity lies 2 miles W. of Kinnaird's d, a conſpicuous point in Aberdeenſhire, where ght-houſe was lately erected by government. climate is dry and healthy; the ſurface is le the ſoil on the S. black and light; towards N. a yellow clay, which produces good crops arley and beans; but in general is not favour to oats, excepting in two farms. A planta of foreſt trees reared by Sir W. Forbes, by of experiment, has ſucceeded well. The po in 1791, was 1300; the increaſe 76, ſince A conſiderable quantity of kelp is made u the coaſt.

PITT, Chriſtopher, an eminent Engliſh celebrated for his excellent tranſlation of 's Æneid, was born in 1699. Having ſtu years at New College, Oxford, he was pre to the living of Pimperne in Dorſetſhire, he held during life. He had ſo poetical a that he tranſlated Lucan, while a boy. Next fine tranſlation of Virgil, he gained the reputation by his excellent Engliſh tranſ Vida's art of poetry. He died in 1648.

PITT, William, earl of Chatham, a moſt ed Britiſh ſtateſman and patriot, was born vember 1708. He was the youngeſt ſon of t Pitt, Eſq. of Boconnock in Cornwall; and ſon of Thomas Pitt, Eſq. governor of Fort rge in the Eaſt Indies, in the reign of queen , who ſold an extraordinary fine diamond to ng of France for 135,000l. and thus obtained me of *Diamond Pitt*. His intellectual facul d powers of elocution very ſoon made a diſ hed appearance; but at the age of 16 he e attacks of an hereditary gout, by which s tormented at times during the reſt of his His lordſhip entered early into the army, rved in a regiment of dragoons. Through reſt of the ducheſs of Marlborough, he ob a ſeat in parliament before he was 21 years . His firſt appearance in the houſe was as ntative of the borough of Old Sarum, in parliament of Great Britain. In the 10th reſented Seaford, Aldborough in the 11th, e city of Bath in the 12th; where he conti ll he was called up to the houſe of peers in The intention of the ducheſs in bringing us early into parliament was to oppoſe Sir Robert Walpole, whom he kept in awe by the force of his eloquence. At her death the ducheſs left him 10,000 on condition, as was then reported, that he never ſhould receive a place in adminiſtration. However, if any ſuch condition was made, it certainly was not kept on his lordſhip's part. In 1746 he was appointed vice-treaſurer of Ireland, and ſoon after paymaſter general of the forces, and ſworn a privy-counſellor. He diſcharged the office of paymaſter with ſuch honour and inflexible integrity, refuſing even many of the perquiſites of his office, that his bittereſt enemies could lay nothing to his charge, and he ſoon became the darling of the people. In 1755 he reſigned the office of paymaſter, on ſeeing Mr Fox preferred to him. The people were alarmed at this reſignation; and being diſguſted with the unſucceſsful beginning of the war, complained ſo loudly, that, on the 4th December 1756, Mr Pitt was appointed ſecretary of ſtate in the room of Mr Fox afterwards Lord Holland; and other promotions were made to ſecond his plans. He then took ſuch meaſures as were neceſſary for the honour and intereſt of the nation; but in February 1757, having refuſed to aſſent to the carrying on a war in Germany for the ſake of his majeſty's dominions on the continent, he was deprived of the ſeals on the 5th of April following. Upon this the complaints of the people again became ſo violent, that on the 29th of June he was again appointed ſecretary, and his friends filled other important offices. The war was now conducted with uncommon ſucceſs; yet on the 5th Oct. 1761, Mr Pitt, to the aſtoniſhment of the public, reſigned the ſeals. The reaſon was, that Mr Pitt, having received certain intelligence that the family compact was ſigned between France and Spain, and that the latter was about to join France againſt us, thought it neceſſary to prevent her by commencing hoſtilities firſt. Having communicated this opinion in the privy council, the other miniſters urged that they would think twice before they declared war againſt that kingdom. "I will not give them leave to think (replied Mr Pitt); this is the time, let us cruſh the whole houſe of Bourbon. But if the members of this board are of a different opinion, this is the laſt time I ſhall ever mix in its councils." After his reſignation in 1761, Mr Pitt never had any ſhare in adminiſtration. He received a penſion of 3000l. a-year, to be continued after his deceaſe, during the ſurvivancy of his lady and ſon; and this gratuity was dignified with the title of *Baroneſs of Chatham* to his lady, and that of *Baron* to her heirs male. Mr Pitt at that time declined a title of nobility; but in 1766 accepted of a peerage under the title of *Baron Pynſent and Earl of Chatham*, and at the ſame time he was appointed lord privy-ſeal. This acceptance of a peerage proved very prejudicial to his lordſhip's character. However, he continued ſtedfaſt in his oppoſition to the meaſures of adminiſtration. His laſt appearance in the Houſe of Lords was on the 2d of April 1778. He was then very ill and much debilitated: but the queſtion was important, being a motion of the duke of Richmond to addreſs his majeſty to remove the miniſters, and make peace with America on any terms. His lordſhip made a long ſpeech, which had certainly overcome

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come his ſpirits: for, attempting to riſe a ſecond time, he fell down in a convulſive fit; and though he recovered for that time, his diſorder continued to increaſe till the 11th of May, when he died at his ſeat at Hayes. His death was lamented as a national loſs. As ſoon as the news reached the Houſe of Commons, which was then ſitting, Colonel Barré made a motion, that an addreſs ſhould be preſented to his majeſty, requeſting that the Earl of Chatham ſhould be buried at the public expence. But Mr Rigby having propoſed the erecting of a ſtatue to his memory, as more likely to perpetuate the ſenſe of his great merits entertained by the public, this was unanimouſly carried. A bill was ſoon after paſſed, by which 4000l. a-year was ſettled upon John, now earl of Chatham, and the heirs of the late earl to whom that title may deſcend.—His lordſhip was married in 1754 to Lady Eſther, ſiſter to the earl of Temple: by whom he had three ſons and two daughters. The manners of lord Chatham were eaſy and bland, his converſation was ſpirited and gay, and he readily adapted himſelf to the complexion of thoſe with whom he aſſociated. That artificial reſerve, which is the never-failing refuge of ſelf-diffidence and cowardice, was not made for him. He was unconſtrained as artleſs infancy, and generous as the noon-day ſun: yet had he ſomething impenetrable that hung about him. By an irreſiſtible energy of ſoul, he was haughty and imperious. He was incapable of aſſociating councils, and he was not formed for the ſweeteſt bands of ſociety. He was a pleaſing companion, but an unpliant friend. The eloquence of lord Chatham was one of his moſt ſtriking characteriſtics. He far outſtripped his competitors, and ſtood alone the rival of antiquity. But his ſpirit and intrepidity were conſpicuous in every action of his life; nor did they leave him to the laſt. As an inſtance of his determined reſolution, when he had any great national object in view, we ſhall conclude with one characteriſtical anecdote:—Preparatory to one of the ſecret expeditions during the war which ended in 1763 the miniſter had given orders to the different preſiding officers in the military, navy, and ordnance departments, to prepare a large body of forces, a certain number of ſhips, and a proportionable quantity of ſtores, &c. and to have them all ready againſt a certain day. To theſe orders he received an anſwer from each of the officers, declaring the total impoſſibility of a compliance with them. Notwithſtanding it was then at a very late hour, he ſent immmediately for his ſecretary; and after expreſſing his reſentment at the ignorance or negligence of his majeſty's ſervants, he gave the following commands: —"I deſire, Mr Wood, that you will immediately go to Lord Anſon; you need not trouble yourſelf to ſearch the admiralty, he is not to be found there; you muſt purſue him to the gaming houſe, and tell him from me, that if he does not obey the orders of government which he has received at my hands, that I will moſt aſſuredly impeach him. Proceed from him to Lord Ligonier; and though he ſhould be boſtered with harlots, undraw his curtains, and repeat the ſame meſſage. Then direct your courſe to Sir Charles Frederick, and aſſure him, that if his majeſty's orders are not obeyed, they ſhall be the laſt which he ſhall [illegible] from me." In conſequence of theſe [illegible] Mr Wood proceeded to White's, and told [illegible] rand to the firſt lord of the admiralty; who [illegible] ed that the ſecretary of ſtate was out of [illegible] and it was impoſſible to comply with his [illegible] "however, (added he,) as madmen muſt [illegible] ſwered, tell him that I will do my utmoſt [illegible] fy him." From thence he went to the [illegible] der in chief of the forces, and delivered the [illegible] meſſage. He alſo ſaid that it was an [illegible] buſineſs; "and the ſecretary knows it, [illegible] the old lord:) nevertheleſs, he is in the right [illegible] make us do what we can; and what is poſſible [illegible] do, inform him, ſhall be done." The [illegible] general of the ordnance was next informed [illegible] Pitt's reſolution; and, after ſome little [illegible] tion, he began to think that the orders might [illegible] completed within the time preſcribed. The conſequence at laſt was, that every thing, [illegible] *impoſſibilities* was ready at the time appointed.

(3.) PITT, in geography, a county of N. Carolina in Newburn diſtrict; bounded on the N. by Edgcomb, NE. by Beaufort, S. by Craven, SW. by Glaſgow. It contained 5368 [illegible] and 2,367 ſlaves in 1795. Greenville is the capital.

(4.) PITT, FORT, a fort of the United States on the banks of the Ohio, now forming [illegible] town, called PITTSBURG.

(5.) PITT ISLAND, an iſland in the N. Pacific Ocean, near the W. coaſt of N. America, between Norfolk Sound and Saliſbury Sound; 15 miles long, and 3 broad.

PITTACUS, a native of Mitylene in Lesbos, was one of the ſeven wiſe men of Greece. His father's name was Hyrradius. With the aſſiſtance of the ſons of Alcæus, he delivered his country from the oppreſſion of the tyrant Melanchrus, and in the war which the Athenians waged with Lesbos, he appeared at the head of his countrymen, and challenged to ſingle combat Phrynon the enemy's general. As the event of the war ſeemed to depend upon this combat, Pittacus had recourſe to artifice; and when he engaged, he entangled his adverſary in a net which he had concealed under his ſhield, and eaſily diſpatched him. He was amply rewarded for this victory; and his countrymen, ſenſible of his merit, unanimouſly appointed him governor of their city with unlimited authority. In this capacity Pittacus behaved with great moderation and prudence; and after he had governed his fellow-citizens with the ſtricteſt juſtice, and eſtabliſhed the moſt ſalutary laws, he voluntarily reſigned the ſovereign power, having enjoyed it for 10 years. His diſintereſtedneſs gained him many admirers; and when the ſtate by means withed to reward his public ſervices, preſenting him with an immenſe tract of land, he refuſed to accept more land than what was contained in the diſtance to which he could throw a javelin. He died in his 70th year, about A. M. 3579, after he had ſpent the laſt 10 years of his life in literary eaſe and retirement. Many of his maxims were inſcribed on the walls of Apollo's temple at Delphi, to ſhow to the world how great was the opinion the Mityleneans entertained of his wiſdom as a philoſopher, a moraliſt, and a man.

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PITTALY, a village of Scotland, in Aberdeenshire, in the parish of Pitfligo, 2 miles E. of Rosefrty. In 1791, it contained 116 inhabitants, who chiefly employed in fishing.

PITTANCE. *n. ſ.* [*pitance*, Fr. *pietantia*, Ital.] 1. An allowance of meat in a monaſtry. A ſmall portion.—

You're like to have a thin and ſlender *pittance*. *Shak.*

He aſs ſaved a miſerable *pittance* for himſelf. *Strange.*—I have a ſmall *pittance* left, with ch I might retire. *Arbuthnot.*—Many of them the greateſt part of the ſmall *pittance* of learn- they received at the univerſity. *Swift.*—

Half his earn'd *pittance* to poor neighbours went. *Harte.*

PITTEN, a town of Germany in Auſtria, 8 s S. of Ebenfurth.

(1.) PITTENWEEM, a pariſh of Scotland, on coaſt of Fife, a mile and a quarter long and a mile broad. The Climate is dry and heal- the ſurface level, the ſoil black and loamy, very fertile, the water is remarkably ſoft and from brackiſhneſs. The population, in 1791, 1157; increaſe 218 ſince 1755; chiefly owing he collieries, and ſalt-works. The people are ſly employed in the ſalt work, collieries and ng; but fiſh are not ſo numerous on this coaſt formerly. Great quantities of lobſters are ght, and ſent to London and Edinburgh. The ole pariſh lies upon coal. There are 9 ſalt s. The average expence of coal and ſalt- rks, is about L. 50 a year.

(2.) PITTENWEEM, a ſea port town and royal gh of Scotland, on the S. coaſt of Fife, and N. k of the Frith of Forth, 23 miles NE. of Edin- gh. It was erected into a royal burgh by K. es V. in 1547; and joins with Anſtruther Eaſt and Weſter, Crail, and Kilrenny, in choo- delegates, to elect a repreſentative in the im- al Britiſh parliament. All the inhabitants of panſh reſide in it, except 4 families. The ber of veſſels belonging to it is only 4, and boats 5. From the records of the town, it ap- s, that prior to 1639, its ſhipping was con- rable. On the 14th Feb. 1651, it was viſited King Charles II, and ſeveral of his courtiers, were elegantly entertained by the bailies and ncil. An extract of the records of council, re- ing the entertainment given his majeſty hat occaſion, is inſerted in Sir *J. Sinclair's Acc.* Vol. iv. p. 376, 377. In 1779, Pitten- m was viſited by Paul Jones. The people, ng his veſſel for a Britiſh ſhip, ſent out a boat, aſked for ſome gun-powder, which he gave ; but detained their pilot for a conſiderable after. Lon. 2. 49. W. Lat. 56. 12. N.

PITTERSBERG, a town of Germany, in Ca- ia; 3 miles N. of Mauten.

PITTHEA, a town of Argolis, near Troezene.

PITTHEUS, the ſon of Pelops and Hippoda- , king of Troezene. He is ſaid to have been learned for that age. He educated not only grandſon, Theſeus, the ſon of Ægeus king thens by his daughter Æthra, but even taught y of his ſubjects; and wrote a book, which extant and ſeen by Pauſanias the geographer. He was buried at Troezene, where his tomb, and ſeat of judgment were ſeen many ages after. *Paus.* 1 and 2. *Plut.* Strabo, 8.

PITTHIEVELESS, a village about a mile W. of Perth.

PITTOSPORUM, in botany; a genus of the monogynia order, belonging to the pentandria claſs of plants. The calyx is pentaphyllous, inferous and deciduous. The petals are 5; the ſtyle thread-ſhaped; the capſule ſomewhat angular, trilocular, and containing 3 or 4 angulated ſeeds, adhering to the capſule by means of a liquid reſin in the loculaments. Of this there are 3 ſpecies, *viz.*

1. PITTOSPORUM CORIACEUM, grows in Madeira, and flowers in May and June.

2. PITTOSPORUM TENUIFOLIUM, and } are
3. PITTOSPORUM UMBELLATUM, } both

natives of the Cape of Good Hope.

PITTSBOROUGH or } a town of N. Carolina,
(1.) PITTSBURG, } the capital of Chatham county, ſeated on an eminence near Hickory mountain in a fertile country and healthy climate, whence it has been called the *Montpellier* of N. Carolina. It has a court-houſe, where quarterly courts are held. It is 26 miles SW. of Hilliſborough, 54 SW. of Fayetteville, and 505 from Philadelphia.

(2.) PITTSBURG, a poſt town of Pennſylvania, the Capital of Allegany county, is ſeated on a fine plain between the Allegany and Monongahela, about a quarter of a mile from their confluence, where they form the OHIO, 1188 miles above its conflux with the Miſſiſippi. It is regularly laid out on Penn's plan, about 200 yards from the ground where formerly FORT DU QUESNE ſtood, when the country was poſſeſſed by the French, and which was afterwards called FORT PITT. In 1756, Gen. Braddock, and a party of Britiſh troops, going to take it, fell into an ambuſcade, and he was killed and his troops taken; but in 1758, it was taken by the Britiſh. It conſiſts of ſeveral ſtreets croſſing each other at right angles. In Dec. 1796 it contained above 200 houſes, and 1353 citizens; but the number has ſince, greatly increaſed. The adjacent hills abound with coals, and before the revolution one of theſe coal hills took fire and continued burning for 8 years, till part of the hill falling in extinguiſhed the fire. During the floods in ſpring, veſſels of 200 tons burden may go from Pittſburg to the ſea in 17 days though 2000 miles diſtant. It has an academy, a Preſbyterian and a German Lutheran church, with a court-houſe, and quarterly courts, &c. It is 303 miles W. by N. of Philadelphia. Lon. 80 8. W. Lat. 40 31. N.

(1.) PITTSFIELD, a poſt town of Maſſachuſetts, on the W. line of Berkſhire county, 6 miles N. of Lenox, and 140 W. of Boſton; containing 1992 citizens in 1795. It is 295 miles from Philadelphia, and 27 W. of Northampton.

(2.) PITTSFIELD, a townſhip of New Hampſh. in Rockingham county; containing 888 citizens, in 1795.

(1.) PITTSTON, or } a poſt town of New
(1.) PITTSTOWN, } Jerſey, in Hunterdown county on the W. head water of the Raritan, 58

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miles NNE. of Philadelphia. Lon. 0. 13. E. of that city. Lat. 40. 36. N.

(2.) PITTSTOWN, a poſt town of Maine, in Lincoln county; on the Kennebeck, 187 miles N. by W. of Boſton, and 540 from Philadelphia. In 1790, it contained 605 citizens.

(3.) PITTSTOWN, a poſt town of New York, in Renſſelaer. In 1795, it had 419 electors, 2414 citizens, and 33 ſlaves.

(1.) PITTSYLVANIA, a county of Virginia, between the Blue Ridge and Tide Waters, bounded on the N. by Campbell county, E. by Halifax, S. by N. Carolina, W. by Patrick, and NW. by Franklin counties. It is 40 miles long, and 37 broad; and, in 1795, contained 8600 citizens, and 2979 ſlaves.

(2.) PITTSYLVANIA, the capital of the above county, is 110 miles SW. of Richmond. It has a county court-houſe; the court meets the laſt Tueſday of every month.

PITTY, a river of Indoſtan, a branch of the Indus, which runs into the ſea.

(1.) PITUITARY, *adj.* Of or belonging to phlegm.

(2.) PITUITARY GLAND. See ANATOMY, *Index.*

* PITUITE. *n. ſ.* [*pituite*, Fr. *pituita*, Lat.] Phlegm.—Serous defluxions and redundant *pituite* were the product of the winter. *Arb.*

* PITUITOUS. *adj.* [*pituitoſus*, Lat. *pituiteux*, Fr.] Conſiſting of phlegm.—It is thus with women only, that abound with *pituitous* and watery humours. *Brown.*—The forerunners of an apoplexy are weakneſs, waterineſs and turgidity of the eyes, *pituitous* vomiting and laborious breathing. *Arbuthnot.*—The lungs are formed likewiſe to ſeparate and diſcharge the redundant *pituitous* or ſegmatick parts of the blood. *Blackmore.*

PITULANI, an ancient people of Italy, in Umbria. *Lempriere.*

PITULUM, a town of Umbria, capital of the Pitulani. *Lempr.*

* PITY. *n. ſ.* [*pitie*, Fr. *pieta*, Italian.] 1. Compaſſion; ſympathy with miſery; tenderneſs for pain or uneaſineſs.—

Wan and meagre let it look,
With a *pity* moving ſhape. *Waller.*

—An ant dropt into the water; a woodpigeon took *pity* of her, and threw her a little bough. *L'Eſtrange.*—He hath implanted in men a quick and tender ſenſe of *pity*. *Calamy.*—When Æneas is forced in his own defence to kill Lauſus, he has *pity* on his beauty. *Dryden.*—

The mournful train
Beſought his *pity* to their helpleſs kind. *Dryden.*

2. A ground of *pity*; a ſubject of *pity* or of grief.—That he is old, the more is the *pity*. *Shak.*—Julius Cæſar writ a collection of apophthegms; it is *pity* his book is loſt. *Bacon.*—'Tis great *pity* we do not yet ſee the hiſtory of Chaſmir. *Temple.*—

See, where ſhe comes, with that high air and mien,
Which marks in bonds the greatneſs of a queen:
What *pity* 'tis! *Dryden.*
What *pity* 'tis you are not all divine. *Dryden.*
Who would not be that youth? what *pity* is it
That we can die but once to ſerve our country? *Addiſon.*

3. It has in this ſenſe a plural. In low language.—Singleneſs of heart being a virtue ſo neceſſary, 'tis a thouſand *pities* it ſhould be diſcountenanced. *L'Eſtrange.*

(1.) * *To* PITY. *v. a.* [*pitoyer*, Fr.] To compaſſionate miſery; to regard with tenderneſs on account of unhappineſs.—When I deſired them leave, that I might *pity* him, they took from me the uſe of mine own houſe. *Shak.*—He made them to be *pitied* of all. *Pſalm* cvi. 46.—

You I could *pity* thus forlorn. *Milt.*
Compaſſionate my pains! ſhe *pities* me! *Addiſ.*

—*Pity* weakneſs and ignorance. *Law.*—The man is to be *pitied*, who has to do with a ſtaunch metaphyſician. *Beattie.*

(2.) * *To* PITY. *v. n.* To be compaſſionate.—I will not *pity* nor ſpare. *Jer.* xiii. 14.

PITYÆ, an ancient town of Aſia Minor. *Apollonius.*

PITYASSUS, an ancient town of Piſidia. *Strab.*

PITYOCAMPASIS, in entomology, the caterpillar of the pine-tree, received its compound name from that ſubſtance. It was conſidered as a poiſon, and as a remedy, according to its different employment; but our chief information is derived from M. Reaumur, who has attentively obſerved its manner of life. The animal cannot bear much cold, and is therefore never found in the higher latitudes. It is ſtyled proceſſionary, becauſe it never leaves its hold, where many families reſide, till the evening, when it feeds in trains, led on by two or three, and this train leaves a ribband of ſilk in its way for thoſe behind follow exactly the ſteps of thoſe which preceded, and each leaves its fibre of ſilk. Their neſts are found in autumn; they are born the middle of September, become torpid in December, and recover their ſtrength again in ſpring. They then deſcend from the trees, plunge into the earth, and undergo their laſt change. It is the bombyx pityocampa of Fabricius, (*Mantiſſa Inſector.* tom. ii. p. 114. n° 66.), and greatly reſembled the proceſſionary caterpillar of the oak. The ancients uſed it as a veſicatory, and the acrimony ſeems to reſide chiefly in a duſt which is concealed in receptacles on its back. This is its offenſive weapon, for it is thrown out at will, and produces very troubleſome effects, though the hair of the animal and every part of its body ſeem to have a ſimilar, but weaker power. The effects are alſo weaker in winter. Their ſilk is not ſufficiently ſtrong for the loom, and in hot water melts almoſt to a paſte. In the earth it forms neſts of ſtronger ſilk, but it is then found with difficulty: in boxes its ſilk is extremely tender. Adding to all theſe inconveniencies, handling the cones produces all the bad effects of the ſilk. Matthiolus recommends them as a ſtyptic, and perhaps they may ſerve for burning on the ſkin inſtead of moxa, the downy ſilk of a ſpecies of artemiſia. The ancients, afraid of its hurtful qualities, uſed them with caution, and enacted laws againſt their being ſold promiſcuouſly: the modern planter is chiefly afraid of them becauſe they deſtroy

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ſtroy the beauty of his trees, and he endeavours collect the eggs by cutting off the branches, ich are burnt immediately.

PITYONESUS, an iſland on the coaſt of Peloonneſus, near Epidaurus. *Pliny.*

PITYUS, *(untis)* an ancient town of Colchis, w called PITCHINDA. *Pliny*, vi. c. 5.

1.) PITYUSA, a name of CHIOS.

2.) PITYUSA, an iſland on the coaſt of Argo- *Plin.* iv. c. 12.

3, 4.) PITYUSÆ, two iſlands on the coaſt of un; diſtinguiſhed by the names of EBUSUS l OPHIUSA. *(Melu. Strab. Plin.)* See theſe cles.

PITZENBERG, a town of Germany, in Au-, 2 miles NW. of Schwannaſtatt.

1.) PIVAT, or PIVOT, a foot or ſhoe of iron or other metal, uſually conical or terating in a point, whereby a body, intended to n round, bears on another fixed at reſt, and forms its revolutions. The pivot uſually bears turns round in a ſole, or piece of iron or braſs lowed to receive it.

2.) * PIVOT. *n. ſ.* [*pivot*, Fr.] A pin on ich any thing turns.—When a man dances on rope, the body is a weight balanced on its , as upon two *pivots*. *Dryden.*

1.) PIURA, a diſtrict or juriſdiction of Peru, Truxillo. It was the firſt Spaniſh ſettlement hat country. The climate is hot, and very , rain being ſeldom known in it; but the want it is ſupplied by a river, the water of which is ſpread over the country by canals.

2.) PIURA, the capital of the above juriſdic-, founded in 1531 by Francis Pirano, contain- about 1500 inhabitants. It has a fine hoſpital, er the care of the Bethlehemites, remarkable its cures. It lies 25 miles SSE. of Paita.

PIUS, [Lat. *i. e.* pious.] a name deſervedly gito the emperor ANTONINUS; as well as to a of METELLUS, becauſe he exerted himſelf ſmly to get his father recalled from baniſhment. alſo a name aſſumed by 7 popes of Rome, laſt of whom is now (1804) living.

Pius I. Pope and Saint, ſucceeded Hyginus, D. 142. He was an Italian; he condemned hereſies of Valentinian; and ſuffered martyrn in 157.

IUS II. Æneas Sylvius PICCOLOMINI, was on the 18th Oct. 1405, at Corſigni, in Sien-, the name of which he afterwards changed that of *Pienza*. Æneas was carefully edud, and having finiſhed his ſtudies at Sienna, vent in 1431 to the council of Bale with Car- Capranica, as his ſecretary. He afterwards d in the ſame capacity to Card. Albergati, to Frederic III. who decreed to him the poecrown, and ſent him ambaſſador to Rome, in, Naples, Bohemia, and other places. Ni- V. advanced him to the biſhopric of Trieſte, after to that of Sienna. In 1456, after havdiſtinguiſhed himſelf in various nunciatures, was made a Cardinal by Calixtus III. whom ſucceeded as pope on the 27th Aug. 1458. II. from the commencement of his pontifi-, appeared jealous of the papal prerogatives. 1460, he iſſued a bull, "declaring appeals from the pope to a council to be *null, erroneous, deteſtable*, and contrary to the ſacred canons." That bull, however, did not prevent the procurator general of the parliament of Paris from appealing to a council in defence of the Pragmatic ſanction, which the pope had ſtrenuouſly oppoſed. Pius was then at Mantua, whither he had gone to engage the Catholic princes to unite in a war againſt the Turks. The greater part of them agreed to furniſh either troops or money; others refuſed both, particularly the French, who from that moment incurred his holineſs's averſion. That averſion abated under Lewis XI. whom he perſuaded in 1461 to aboliſh the Pragmatic ſanction, which the parliament of Paris had ſupported with ſo much vigour. The year 1462 was rendered famous by a controverſy which took place between the Cordeliers and Dominicans, about two very abſurd queſtions. The diſpute became ſo violent, that they called each other *hereties;* which obliged the pope to iſſue a bull, forbidding ſuch odious epithets. He next publiſhed another bull, dated 26th April, retracting what he had written to the council of Bale when he was its ſecretary: wherein he had written ſome ſentiments that "tended to *hurt the authority* of the apoſtolic ſee." In this bull he gave a ſhort account of his life and actions, with the hiſtory of the council of Bale, to which he went with Card. Capranica in 1431. In the mean time, the Turks were threatening Chriſtendom. Pius, ever zealous againſt the infidels, reſolved to ſit out a fleet, and paſs over into Aſia himſelf. He went to Ancona, but fell ſick with the fatigue of the journey, and died on the 16th Aug. 1464, aged 59. Pius was one of the moſt learned men of his time, and one of the moſt zealous pontiffs. His chief works are, 1. Memoirs of the council of Bale. 2. The hiſtory of the Bohemians, from their origin to 1458. 3. Two books on coſmography. 4. The hiſtory of Frederic III. publiſhed in 1785, folio, and eſteemed pretty accurate. 5. A treatiſe on the education of children. 6. A poem upon the paſſion of Jeſus Chriſt. 7. A collection of 432 letters, printed at Milan, 1473, in folio, in which are ſome curious anecdotes. 8. The memoirs of his own life, publiſhed by John Gobelin Perſonne, his ſecretary, at Rome, 4to. 1584. 9. *Hiſtoria rerum ubicunque geſtarum*, of which only the firſt part was publiſhed at Venice in 1477 in folio. His works were printed at Helmſtadt in 1700, in folio, with his life prefixed. The verſe of Virgil's Æneid, (lib. i. v. 382.) which begins

Sum PIUS ÆNEAS,

was in the punning humour of the age applied to him.

PIUS III. whoſe name was Francis Todeſchini, was nephew of Pius II. who cauſed him take his name of PICCOLOMINI, and made him an archbiſhop and cardinal. In 1503, he ſucceeded Alexander VI. but died in 21 days after his election.

PIUS IV. John Angelo DE MEDICIS, (not of the Florence family) was born at Milan in 1499. He was ſon to Bernardin Medecini, and brother of the famous Marquis de Marignan, Charles Vth's

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general. He filled several important offices under Popes Clement VII. and Paul III. Julius III. who had entrusted him with several legations, made him a cardinal in 1549: and he was elected pope on the death of Paul IV. Dec. 25th 1559. His predecessor had rendered himself detestable to the Romans. Pius IV. commenced his reign by punishing the nephews of Paul IV.; causing Card. Caraffe to be strangled, and his brother, Pr. Palliano, beheaded. His zeal was afterwards directed against the Turks and heretics. To stop the progress of these last, he renewed the Council of Trent. In 1561, he sent to all the Catholic and Protestant princes, the bull for calling that assembly. An end was, however, put to it by the industry of his nephew, S. Charles Borromeus, in 1563; and, on 26th Jan. 1564, he confirmed its decrees. In 1565 a conspiracy was formed against his life by Benedict Acolti, and other visionaries; but was discovered, and Benedict put to death. Pius died Dec. 9th 1565, aged 66, with the hatred of the Romans, whom his severities had exasperated. He adorned Rome with several public edifices.

Pius V. S. Michael Ghisleri, born at Bosco, on the 17th Jan. 1504. was son of a senator of Milan. He turned a Dominican friar. Paul IV. informed of his merit, made him bishop of Sutri, cardinal in 1557, and inquisitor-general in Lombardy; but the severity with which he exercised his office obliged him to quit that country. He was sent to Venice, where his zeal met with still greater obstacles. Pius IV. made him bishop of Mondovi; and on his death he was elected Pope, in 1566. His first object was to repress the luxury of the clergy, the pride of the cardinals, and the licentious manners of the Romans. He caused the decrees of reformation enacted by the Council of Trent to be put in execution; he prohibited bull-baiting in the Circus; he expelled prostitutes from Rome; and allowed cardinals to be prosecuted for debt. Gentle measures failing to reclaim heretics, he had recourse to severity, and several perished in the flames of the inquisition. He particularly displayed his zeal for the grandeur of the Holy See in 1568, by ordaining that the bull *In cœna domini*, which Clement XIV. had suppressed, should be published throughout the whole church. That bull establishes the unlimited power of the popes over all princes. It was rejected by most of the foreign states. Pius V. had the courage to make war on the Turks, by forming a league with the Venetians and Philip II. of Spain. This was the first time that the standard of the *two keys* was seen displayed against the *crescent*. The naval armies engaged on the 7th Oct. 1571, in Lepanto Bay, and the Christian princes obtained a signal victory over the Turks, who lost above 30,000 men, and near 200 galleys. The success was chiefly owing to the Pope, who exhausted his treasury in fitting out that armament. He died of the gravel six months after, 30th April 1572, aged 68. His name will for ever adorn the list of Roman pontiffs. His bulls against Elisabeth, indeed, and in favour of the inquisition, with his rigorous prosecution of heretics, prove that he had more zeal than humanity; but in other respects, he was not without his virtues. Selim II. caused public rejoicings to be made at Constantinople for his death for 3 days. The pontificate of Pius is celebrated for the condemnation of Baius, the extinction of the order of Humilies, and the canonization of that of the Cistercians. He was canonized by Clement XI. in 1712. There are extant several of his letters, printed at Anvers in 1566, in 4to. Felibian, in 1672, published his *Life*, translated from the Italian of Agatio di Somma.

Pius VI. whose original name was *Angelo Braschi*, was of a noble, but reduced family. He was born in 1718, and rose to the rank of prelate and cardinal entirely by his merit. He was elected pope on the death of Clement XIV. During the first years of his pontificate, which were perfectly tranquil, he executed a work, which some emperors had attempted in vain, by draining the Pontine marshes, which extended about 40 miles round Vellari, Terracina and Piperno. He not only employed the best engineers, but regularly inspected the work himself till it was finished, and he caused immense canals to be dug to carry off the water, and thus recovered a great deal of fertile land from the marshes. Along the banks of these canals, which were ornamented with rows of poplars, he made a road near 40 miles long, in a straight line, terminating with an elegant palace. At last his tranquillity was interrupted on the accession of the emperor Joseph II. whose plans of reformation prognosticated no good to the church. To prevent their execution, Pius paid a visit personally to the emperor, in Jan. 1782, who received him with all possible respect, but adhered inflexibly to his purpose. The revolution of France, and the consequent overthrow of all form of religion, gave him a still greater shock. Pius, however, did his utmost to preserve peace with the republic, but the murder of citizen Basseville, the French ambassador, in 1793, (see BASSEVILLE,) furnished the directory with a pretext, such as they were waiting for, to overthrow the papal power, turn Rome into a democracy, and carry the Pope a prisoner to France; where, after being shifted about to various places, he died at Valence in Aug. 1799, and received a burial far inferior to his dignity.

(1.) * PIX. *n. s.* [*pixis*, Lat.] A little chest or box, in which the consecrated host is kept in Roman catholick countries. *Hanmer.*—

He hath stolen a *pix*.

(2.) PIX. See MINT, § 6.

(3.) PIX, Mary, an ingenious English dramatic writer, who flourished about the middle of the 17th century. She wrote several tragedies and comedies; and died about 1699.

PIXANGA. See PIRA, N° 8.

PIXENDORFF, a town of Germany, in Austria: 3 miles SSW. of Tulln.

PIXIDATUM FOLIUM. See BOTANY.

PI-YANG, a town of China, of the 3d rank, in Ho-nan: 52 miles WSW. of Yun-hing.

PIZARRO, Francis, a celebrated Spanish general, the discoverer and conqueror of Peru, in conjunction with Diego Almagro, a Spanish commander. They are both charged with horrid cruelties to the inhabitants; and they fell victims to their

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n ambition, jealouſy, and avarice. Almagro olting, was defeated and beheaded by Pizarro, o was aſſaſſinated by Almagro's friends in 41. See PERU, § 4, 5.

PIZZIGHITONE, a town of the Italian re-blic, in the department of the Upper Po, diſ-t and late territory of Cremona, with a ſtrong tle, ſeated on the Adda, in which Francis I. of France, was kept priſoner. Dr Brookes J. Walker ſay it is ſeated on the Serio, but h Mr Cruttwell and Dr Oppenheim place it the Adda. It was taken by the French in 3, but reſtored. It was taken by the French ublicans under Bonaparte, on the 12th May 6, with 400 Auſtrian priſoners, after a briſk nonade. It contains above 400 citizens, and miles NW. of Cremona, 13 SE. of Lodi, and SE. of Milan. Lon. 10. 4. E. Lat. 45. 16. N.

PIZZLE. *n. ſ.* [quaſi *piſtle*. *Minſhew.*]—*pizzle* in animals is official in urine and gene-on. *Brown.*

1.) PIZZO, a town of Naples, in the Gulf it Euſemia, 4 miles from Monte Leone.

2.) PIZZO DI GOTTO, a town of Sicily, in the cy of Demona; 6 miles S. of Melazzo.

3.) PIZZO FERRATO, a town of Naples, in A-zzo Citra; 13 miles ESE. of Solmona.

PLA, a town of Spain, in Catalonia; 5 miles S. Urgel.

PLAAS, David VANDER, a celebrated Dutch ter, born at Amſterdam in 1647. He excelled portraits, and died in 1704.

PLABENNEC, a town of France, in the dep. Finiſterre; 5 miles SW. of Leſneven, and 7½ S. of Breſt.

PLACABILITY. } *n. ſ.* [from *placable.*]
PLACABLENESS. } Willingneſs to be ap-ſed; poſſibility to be appeaſed.—The general ſent of all nations in their opinion of the mer-and *placability* of the divine nature. *Anon.*

PLACABLE. *adj.* [*placabilis*, Lat.] Willing poſſible to be appeaſed.—

Methought I ſaw him *placable* and mild.
Milton.

Theſe implanted anticipations are, that there is od, that he his *placable*. *Hale.*

PLACARD. } *n. ſ.* [*plakaert*, Dutch; *pla-*
PLACART. } *card*, Fr.] An edict; a de-ation; a manifeſto.

To PLACATE. *v. a.* [*placeo*, Lat.] To ap-ſe; to reconcile.—This word is uſed in Scot-d.—A right to approach and rely on the pro-ion and beneficence of a *placated* deity, is not ucible from nature. *Forbes.*

PLACCIUS, Vincent, a learned philoſopher lexicographer, born at Hamburgh, in 1642. ſtudied at Leipſic, and publiſhed a *Dictionary Anonymous and Pſeudonymous Authors.*

1.) * PLACE. *n. ſ.* [*place*, Fr. *piazza*, Italian; n *platea*, Lat.] 1. Particular portion of ſpace. earch you out a *place* to pitch your tents. d. i. 33.—We accept it always, and in all *pla-Acts*, xxiv. 3.—

Here I could frequent
With worſhip, *place* by *place*, where he vouch-ſaf'd
Preſence divine. *Milton.*

I will teach him the names of the moſt cele-brated perſons who frequent that *place*. *Addiſon.* 2. Locality; ubiety; local relation.—*Place* is the relation of diſtance betwixt any thing, and any two or more points conſidered as keeping the ſame diſtance one with another; and ſo as at reſt: it has ſometimes a more confuſed ſenſe, and ſtands for that ſpace which any body takes up. *Locke.* 3. Local exiſtence.—There was found no *place* for them. *Rev.* xx. 11. 4. Space in general.—

But ſhe all *place* within herſelf confines.
Davies.

5. Separate room.—

In his brain
He hath ſtrange *places* cram'd with obſervation.
Shak.

—His catalogue had an eſpecial *place* for ſequeſtered divines. *Fell.* 6. A ſeat; reſidence; manſion.—The Romans ſhall take away both our *place* and nation. *Jo.*— Saul ſet him up a *place*. 1 *Sam.* 7. Paſſage in writing.—Hoſea ſaith of the Jews, they have reigned, but not by me; which *place* proveth, that there are governments which God doth not avow. *Bacon.*—I could not paſs by this *place*, without giving this ſhort explication. *Burnet.* 8. Ordinal relation.—What ſcripture doth plainly deliver, to that the firſt *place* both of credit and obedience is due. *Hooker.*—Let the eye be ſatisfied in the firſt *place*. *Dryden.*—Conſider, in the firſt *place*, that he is omnipreſent; and, in the ſecond, that he is omniſcient. *Addiſon.* 9. State of actual operation; effect.—

Theſe fixed evils ſit ſo fit in him,
That they take *place*, when virtue's ſteely bones
Look bleak in the cold wind. *Shak.*

—Theſe fair overtures could take no *place*. *Hayward.*—They are defects in the brain; for they take *place* in the ſtouteſt natures. *Bacon.*—

With faults confeſs'd commiſſion'd her to go,
If pity yet had *place*, and reconcile her foe.
Dryden.

Where arms take *place*, all other pleas are vain. *Dryden.*

—The unhappy omen took not *place*. *Dryden.*—Virgil muſt be ſtill excepted, when that perhaps takes *place*. *Dryden.*—It is ſtupidly fooliſh to venture our ſalvation upon an experiment, which we have all the reaſon imaginable to think God will not ſuffer to take *place*. *Atterbury.* 10. Exiſtence.—Mixt government is by no means of Gothick invention, but hath *place* in nature and reaſon. *Swift.* 11. Rank; order of priority.—

The heavens themſelves, the planets, and this center,
Obſerve degree, priority and *place*. *Shak.*

12. Precedence; priority. This ſenſe is commonly uſed in the phraſe *take place.*—

Do you think I'd walk in any plot,
Where Madam Sempronia ſhould take *place* of me? *Ben Jonſon.*

—There would be left no meaſures of credible and incredible, if doubtful propoſitions take *place* before ſelf-evident. *Locke.*—As a Britiſh freeholder, I ſhould not ſcruple taking *place* of a French marquis. *Addiſon.* 13. Office; public character or employment.—

Do you your office, or give up your *place*.
Shak.

'Tis

'Tis but the fate of *place*, and the rough brake
That virtue muſt go through. *Shak.*

—The horſemen came to Lodrinius, beſeeching him to take upon him the *place*. *Knolles.*—

Nor doth he promiſe, which is more,
That we ſhall have their *places*. *Denham.*

Patriots for a *place* abandon'd fame. *Garth.*

—Some magiſtrates are contented, that their *places* ſhould adorn them; and ſome ſtudy to adorn their *places*. *Atterbury.* 14. Room; way; ſpace for appearing or acting given by ceſſion; not oppoſition.—Rather give *place* unto wrath. *Rom.* xii. 19.—

Give *place*, and mark the diff'rence if you can,
Between a woman warrior and a man. *Dryden.*

Victorious York did firſt, with fam'd ſucceſs,
To his known valour make the Dutch give *place*. *Dryden.*

The ruſtick honours of the ſcythe and ſhare,
Give *place* to ſwords and plumes. *Dryden.* 15. Ground; room.—My word hath no *place* in you. *Jo.* viii. 37.—There is no *place* of doubting. *Hammond.* 16. Station in life.—God would give them, in their ſeveral *places* and callings, all ſpiritual and temporal bleſſings. *Duty of Man.*

(2.) PLACE, LOCUS, in philoſophy, a mode of ſpace, or that part of immoveable ſpace which any body poſſeſſes. See METAPHYSICS, § 59; and NEWTONIAN PHILOSOPHY, *Sect.* III, *Sch.* III.

(3.) PLACE, in aſtronomy. The place of the ſun, a ſtar, &c. denotes the ſign and degree of the zodiac which the luminary is in; or the degree of the ecliptic, reckoning from the beginning of aries, which the planet or ſtar's circle of longitude cuts: and therefore coincides with the longitude of the ſun, planet, or ſtar. As the ſine of the ſun's greateſt declination 23° 30′: to the ſine of any preſent declination given or obſerved, for inſtance, 23° 15′:: ſo is the radius 10: to the ſine of his longitude 81° 52′; which, if the declination were north, would give 20° 52′ of gemini; if ſouth, 20° 52′ of capricorn, for the ſun's place. See DECLINATION, &c. The place of the moon being that part of her orbit wherein ſhe is found at any time, is of various kinds, by reaſon of the great inequalities of the lunar motions, which render a number of equations and reductions neceſſary before the juſt point be found. The moon's fictitious place is her place once equated; her place nearly true, is her place twice equated; and her true place thrice equated. See ASTRONOMY, *paſſim*.

(4.) PLACE, in war, a general name of all kinds of fortreſſes where a party may defend themſelves. Thus, 1. A *ſtrong* or *fortified place* is one flanked, and covered with baſtions. 2. A *regular place*, one whoſe angles, ſides, baſtions, and other parts, are equal; and this is uſually denominated from the number of its angles, as a pentagon, hexagon, &c. 3. An *Irregular place* is one whoſe ſides and angles are unequal. 4. A *Place of arms* is a ſtrong city or town pitched upon for the chief magazine of an army; or, in a city or garriſon, it is a large open ſpot of ground, uſually near the centre of the place where the grand guard is commonly kept, and the garriſon holds its rendezvous at reviews, and in caſes of alarm to receive orders from the governor. 5. *Place of arms of an attack*, in a ſiege, is a ſpacious place covered from the enemy, by a parapet or epaulement, where the ſoldiers are poſted ready to ſuſtain thoſe at work in the trenches againſt the ſoldiers of the garriſon. 6. *Place of arms, particular*, in a garriſon, a place near every baſtion, where the officers ſent from the grand place to the quarters aſſigned them relieve thoſe that are either upon the guard or in ſight. 7. *Place of arms without*, is a place allowed to the covert way for the planting of cannon, to oblige thoſe who advance in their approaches to retire. 8. *Place of arms in a town*, a large place at the head of the camp for the army to be ranged in and drawn up in batallia. There is alſo a place for each particular body, troop, or company, to aſſemble in.

(5.) PLACE, COMMON. See COMMON-PLACE.

* *To* PLACE. *v. a.* [*placer*, Fr. from the noun] 1. To put in any place, rank, condition, or office.—*Place* ſuch over them to be rulers. *Ex.* xviii. 21.—He *placed* forces in all the fenced cities. 2 Chron. xvii. 2.—

And I will *place* within them as a guide
My umpire conſcience. *Milton.*

Our two firſt parents yet the only two
Of mankind in the happy garden *plac'd*. *Milton.*

2. To fix; to ſettle; to eſtabliſh.—Their acculations had been more reaſonable, if *placed* in inferior perſons. *Dryden's Aurengz.*—God or nature has not any where *placed* any ſuch juriſdiction in the firſt born. *Locke.* 3. To put out at intereſt.—

'Twas his care
To *place* on good ſecurity his gold. *Pope.*

PLACENTA, *n. ſ.* in anatomy and midwifery, a ſoft roundiſh maſs, found in the womb of pregnant women; which, from its reſemblance to the liver, was called by the ancients *hepar uterinum*, uterine liver. See MIDWIFERY, *Part* II. *Sect.* II.

PLACENTATION. *n. ſ.* See BOTANY, *Index.*

(1.) PLACENTIA, a duchy of Italy, connected with that of Parma, and included in the Parmeſan. (See PARMESAN, N° 1.) It is bounded on the E. by Parma, S. by the Ligurian republic, and on the N. and W. by the ci-devant Milaneſe, now the department of Olona, in the Italian republic. It is very fertile; being watered not only by the Po, but by a great number of rivulets, and ſurrounded with hills, abounding in all kinds of fruits. It has ſeveral ſalt ſprings, from the waters of which a great deal of ſalt is made. It alſo abounds in woods, warrens and mines of iron. Its chief rivers are the Trebbia and Nurra.

(2.) PLACENTIA, or PIACENZA, a town of Italy, and capital of the above duchy, with a biſhop's ſee. Its name is derived from its *pleaſant* ſituation, on the ancient Æmilian way, about half a mile from the Po, in a very fertile plain. It contains a great number of merchants, and is 3 miles in circumference. Its wall and fortifications are conſiderable; but the citadel is ſtrong. The ſtreets are ſtraight, and the principal ſtreet, called *Strada done*, is 25 paces broad and 3000 feet long, in a direct line, with 600 ſtone poſts, for ſeparating the foot from the carriage-way, and on both ſides are 11 ſpacious convents. It contains 45 churches, 26 con-

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8 convents, and two alms-houſes. The cathedral s much in the Gothic taſte; but the church of he Auguſtines is worthy of its architect, Vignoli. n the area before the town-houſe ſtand two adirable braſs equeſtrian ſtatues of Alexander I. nd Renatus IV. dukes of Parma and Placentia. t this city begins the *Via Æmilia*, which extends far as Rimini on the Adriatic. The number of e inhabitants is about 30,000, among whom ere are 2000 eccleſiaſtics. This city has been ken ſeveral times in the wars of Italy. The king Sardinia took poſſeſſion of it in 1744, it being ded to him by the queen of Hungary; but it as taken from him in 1746, after a bloody battle. has a famous univerſity, and the inhabitants e eſteemed for politeneſs. There is a great fair re every year on the 15th of April, which is ch frequented. It is about 32 miles NW. of rma, and 83 E. of Turin. It was taken by the nch republicans, under Gen. Murat, in June 00, after a warm action; with 2000 priſoners, much military ſtores. Lon. 10. 24. E. Lat. 5. N.

3.) PLACENTIA, a ſea port of Newfoundland, the SE. coaſt; 40 miles W. of St John, and E. of Cape Breton. Lon. 53. 43. W. Lat. 15. N.

4.) PLACENTIA, a town of Spain in Eſtremaa, with a good caſtle and biſhop's ſee; ſeated the Xera, in a pleaſant plain, ſurrounded by ntains; 80 miles SW. of Madrid. Lon. 5. W. Lat. 50. 25. N.

5.) PLACENTIA, a town of Spain, in Guipua, on the Deva, 25 miles SE. of Bilboa. Lon. 40. W. Lat. 43. 10. N.

6.) PLACENTIA BAY, an extenſive Bay on the coaſt of Newfoundland; which forms a good bour for veſſels, and is much frequented by employed in the Cod Fiſhery. The entrance narrow channel through which only one ſhip paſs at a time; but the water is deep enough the largeſt, and the harbour is capacious enough to hold 150 ſail, which are there ſecure all winds, and can fiſh as quietly as in a r. The current is very ſtrong in the entrance, hat ſhips muſt be towed through it. The great nd is large enough to dry fiſh to load 60 veſ. Lon. from 54° to 55° 10' W. Lat. from to 47. 10. N.

LACENTIUS, Peter, a German poet, who ears to have been extravagantly fond of his initials; for he wrote a Latin Poem of 360 s, entitled *Pugna Porcorum*, in which every l begins with a P. He died in 1548.

LACENZA. See PLACENTIA, N° 1. and 2.

PLACER *n. ſ.* [from *place*.] One that places. Thou *placer* of plants, both humble and tall. *Spenſer.*

LACETTE, John De La, an eminent proſt miniſter, born at Pontac in Bern, in 1639; rducated by his father, who was alſo a clerman. He exerciſed his office, as a miniſter a the Proteſtants in France till the revocation e edict of Nantes in 1685, when he retired enmark, where he continued till the death of Queen, in 1711, who greatly valued his merit. her death he went to Holland; and ſettled t the Hague, and laſt at Utrecht, where he died in 1718, aged 79. He wrote many valuable works on religion and morality; beſides ſome polemical pieces againſt the church of Rome. His treatiſe *upon Conſcience* was tranſlated into Engliſh by Dr Baſil Kennet, in 1705.

* PLACID. *adj.* [*placidus*, Latin.] 1. Gentle; quiet; not turbulent.—It conduceth unto long life, and to the more *placid* motion of the ſpirits, that mens actions be free. *Bacon.* 2. Soft; kind; mild.—

That *placid* aſpect and meek regard,
Rather than aggravate my evil ſtate,
Would ſtand between me and thy father's ire.
Milton.

* PLACIDLY. *adv.* [from *placid*.] Mildly; gently.—If into a phial, filled with good ſpirit of nitre you caſt a piece of iron, the liquor, whoſe parts moved uniformly and *placidly* before, by altering its motion, it begins to penetrate and ſcatter abroad particles of the iron. *Boyle.*—The water eaſily inſinuates itſelf into, and *placidly* diſtends the tubes and veſſels of vegetables. *Woodward.*

* PLACIT. *n. ſ.* [*placitum*, Lat.] Decree; determination.—We ſpend time in defence of their *placits*, which might have been employed upon the univerſal author. *Glanville.*

* PLACKET, or *placquet. n. ſ.* A petticoat.—You might have pinch'd a *placket*, it was ſenſeleſs. *Shak.*—The bone-ach is the curſe dependant on thoſe that war for a *placket. Shak.*

PLADDAY, an iſland of Scotland, a mile from the iſle of Arran, with a light-houſe, containing two different lights, to diſtinguiſh it from thoſe of the Mulls of Kintyre, Galloway and Cumbray.

PLADIA, or BLADIA, a town of Pruſſia, in Natangen; 22 miles SW. of Konigſberg.

PLADLING, a town of Lower Bavaria, on the Iſer; 5 miles SW. of Deckendorf, and 8 NW. of Oſterhofen.

* PLAGIARISM. *n. ſ.* [from *plagiary*.] Theft; literary adoption of the thoughts or works of another.—With great impropriety, as well as *plagiariſm*, they have moſt injuriouſly been transferred into proverbial maxims. *Swift.*

(1.) * PLAGIARY. *n. ſ.* [from *plagium*, Lat.] 1. A thief in literature; one who ſteals the thoughts or writings of another.—The enſuing diſcourſe, leſt I chance to be traduced for a *plagiary* by him who has played the thief, was one of thoſe that, by a worthy hand, were ſtolen from me. *South.*—Without invention, a painter is but a copier, and a poet but a *plagiary* of others. *Dryden's Dufr.* 2. The crime of literary theft. Not uſed.—*Plagiary* had not its nativity with printing, but began when the paucity of books ſcarce wanted that invention. *Brown.*

(2.) PLAGIARY, in philology, is a purloiner of another man's works, who puts them off as his own. Among the Romans, *plagiarius* was properly a perſon who bought, ſold, or retained a freeman for a ſlave; and was ſo called, becauſe, by the Flavian law, ſuch perſons were condemned *ad plagas*, "to be whipped." Thomaſius has an expreſs treatiſe *De plagio literario*, wherein he lays down the laws and meaſures of the right which authors have to one another's writings.—"Dictionary-writers, at leaſt ſuch as meddle with *arts and ſciences* (as is pertinently obſerved by Mr Chambers)

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bers), ſeem exempted from the common laws of *meum* and *tuum*; they do not pretend to ſet up on their own bottom, nor to treat you at their own coſt. Their works are ſuppoſed, in great meaſure compoſitions of other people: and what they take from others they do it avowedly, in the open ſun. —In effect, their quality gives them a title to every thing that may be for their purpoſe, wherever they find it; and if they rob, they do not do it any otherwiſe than as the bee does, for the public ſervice. Their occupation is not pillaging, but collecting contributions; and if you aſk them their authority, they will produce you the practice of their predeceſſors of all ages and nations."

PLAGIUM, in law. See KIDNAPPING.

(1.) * PLAGUE. *n. ſ.* [*plaghe*, Dutch; *plage*, Teut. *plaga*, Latin; πλαγη.] 1. Peſtilence; a diſeaſe eminently contagious and deſtructive.—

Thou art a bile,
A *plague*-ſore or imboſs'd carbuncle
In my corrupted blood. *Shak. King Lear.*

—Many times there have been great *plagues* in dry years. *Bacon's Nat. Hiſt.*—

Snakes that uſe within thy houſe for ſhade,
Securely lurk, and, like a *plague*, invade
Thy cattle with venom. *May's Virgil.*
All thoſe *plagues*, which earth and air had brooded,
Firſt on inferiour creatures try'd their force,
And laſt they ſeized on man. *Lee and Dryden.*

2. State of miſery.—I am ſet in my *plague*. *Pſalm* xxxviii. 17. 3. Any thing troubleſome or vexatious.—'Tis the time's *plague*, when madmen lead the blind. *Shakeſp.*—

I am not mad, too well I feel
The diff'rent *plague* of each calamity. *Shakeſp.*

—Good or bad company is the greateſt bleſſing or greateſt *plague* of life. *L'Eſtrange.*—

Sometimes my *plague*, ſometimes my darling,
Killing to-day, to-morrow ſnarling. *Prior.*

(2.) *The* PLAGUE, PESTILENCE, or *Peſtilential Fever*, is a very acute, malignant, and contagious diſeaſe; being a putrid fever of the worſt kind, and ſeldom failing to prove mortal. Though it is generally defined a malignant fever, Diemerbroek thinks they ought to be diſtinguiſhed, ſince the fever is not the eſſence of the diſeaſe, but merely a ſymptom or effect of it. See MEDICINE, *Index*. The plague, as is generally agreed, is never bred or propagated in Britain, but is frequent in the Levant, Leſſer Aſia, Egypt, &c. Authors are not as yet agreed concerning the nature of this dreadful diſtemper. Some think that inſects are the cauſe of it, in the ſame way that they are the cauſe of blights, being brought in ſwarms from other climates by the wind, when they are taken into the lungs in reſpiration; the conſequence of which is, that they mix with the blood and juices, and attack and corrode the viſcera. Mr Boyle, on the other hand, thinks it originates from the effluvia or exhalations breathed into the atmoſphere from noxious minerals, to which may be added ſtagnant waters and putrid bodies of every kind. Mr Gibbon thinks that the plague is derived from damp, hot, and ſtagnating air, and the putrefaction of animal ſubſtances, eſpecially locuſts. See *Gibbon's Rom. Hiſt.* 4to. vol. iv. p. 327—332, where there is alſo a very particular account of the plague which depopulated the earth in the time of the Emperor Juſtinian. It is a remarkable fact, that *plagues* are ſometimes partial, and that they only attack particular animals, or particular deſcription of perſons, avoiding others altogether, or attacking them but ſlightly. Thus Fernelius informs us of a plague, or murrain, in 1514, which invaded only cats. Dionyſius Biscarnaſſus mentions a plague which attacked nuns but maids; and that which raged in the time of Gentilis, killed ſcarce any women, and very few but luſty men. Boterus mentions another plague, which aſſaulted none but the younger ſort; and we have inſtances of the ſame kind of a late ſtanding. Many methods have been adopted in different countries to prevent the importation of this dreadful ſcourge of the human race, and to ſtop the progreſs of infection after it has been imported. In England, mayors, bailiffs, head officers of corporations, and juſtices of peace, have power to tax inhabitants, houſes, and lands, &c. within their precincts, for the relief of perſons infected with the plague; and juſtices of the county may tax perſons within five miles round, on a pariſh's inability; the tax to be levied by diſtreſs and ſale of goods, or in default thereof by impriſonment. Infected perſons going abroad, after being commanded to keep houſe for avoiding farther infection, may be reſiſted by watchmen, &c. and puniſhed as vagrants, if they have no ſores upon them; and if they have infectious ſores on them it is felony. Juſtices of peace, &c. are to appoint ſearchers, examiners, and buriers of the dead, in places infected, and adminiſter oaths to them in the performance of their duties, &c. *ſtat.* 1 Jac. 1. *cap.* 31. See QUARANTINE.

(3.) PLAGUE, ANTIDOTES AGAINST THE. The commiſſion at Moſcow having, in 1770, invented a fumigation-powder, which, from ſeveral ſucceſsful experiments, had proved efficacious in preventing the infection of the plague; in order more fully to aſcertain its virtue in that reſpect, it was determined, towards the end of the year, that ten malefactors under ſentence of death ſhould, without undergoing any other precautions than the fumigations, be confined three weeks in a lazaretto, be laid upon the beds, and dreſſed in the clothes, which had been uſed by perſons ſick, dying, and even dead, of the plague in the hoſpital. The experiment was accordingly tried, and none of the ten malefactors were then infected, or have been ſince ill. The fumigation-powder is prepared as follows. 1. *Powder of the firſt ſtrength.* Take leaves of juniper, juniper-berries pounded, ears of wheat, guaiacum-wood powdered, of each 6 lb; common ſaltpetre pounded, 4 lb; ſulphur pounded, 6 lb; Smyrna tar, or myrrh, 2 lb; mix all together, which will produce half a pood of the powder of fumigation of the firſt ſtrength. *N. B.* A pood is 40 lb. Ruſſian, which are equal to 35½ or 36 lb. Engliſh avoirdupoiſe. 2. *Powder of the ſecond ſtrength.* Take ſouthern-wood cut into ſmall pieces, 4 lb; juniper berries pounded, 4 lb; common ſaltpetre pounded, 4 lb; ſulphur pounded, 2½ lb; Smyrna tar, or myrrh, 1½ lb; mix the above together, which will produce half a pood of the powder of fumigation of the ſecond ſtrength. 3. *Odoriferous powder.* Take the root called

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nus cut into small pieces, 3 lb; leaves of juniper ut into small pieces, 4 lb. frankincense pounded rosily, 1 lb; storax pounded, and rose flowers, lb; yellow amber pounded, 1 lb. common saltetre pounded, 1¼ lb; sulphur, a quarter of a ound: mix all the above together, which will roduce 9¼ lb. of the odoriferous powder. If uniacum cannot be had, the cones of pines or rs may be used in its stead; likewise the common ar of pines and firs may be used instead of myrna tar, or myrrh; and mugwort may supply e place of southernwood.

(4.) PLAGUE AT LONDON. See LONDON, § 12.

(5.) PLAGUE, DREADFUL INSTANCES OF THE, EUROPE. Thucydides, lib. ii. gives an account of a dreadful plague which happened at thens about A. A. C. 430, and with which he as himself infected, while the Peloponnesians under the command of Archidamus wasted all her erritory abroad; but of these two enemies the lague was by far the most severe. The most readful plague that ever raged at Rome was in e reign of Titus, A. D. 80. The emperor left o remedy unattempted to abate the malignity of e distemper, acting during its continuance like father to his people. The same fatal disease aged in all the provinces of the Roman empire in e reign of M. Aurelius, A. D. 167, and was llowed by a dreadful famine, earthquakes, inundations, and other calamities. About A. D. 430, e plague visited Britain, just after the Picts and cots had made a formidable invasion of the southern part of the island. It raged with uncommon fury, and swept away most of those whom e sword and famine had spared, so that the living were scarce sufficient to bury the dead. About A. D. 1348, the plague became almost general over Europe. Many authors give an account f this plague, which is said to have appeared first the kingdom of Kathay in 1346, and to have roceeded gradually W. to Constantinople and gypt. From Constantinople it passed into Greece, aly, France, and Africa, and by degrees along e coasts of the ocean into Britain and Ireland, d afterwards into Germany, Hungary, Poland, enmark, and the other northern kingdoms. According to Antonius, Abp. of Florence, the distemper carried off 60,000 people in that city. In 56, the plague was brought from Sardinia to aples, being introduced into the city by a transort with soldiers on board. It raged with exssive violence, carrying off in less than six months 0,000 of the inhabitants. In 1720 the city of arseilles was visited with this destructive disease, ought in a ship from the Levant; and in seven onths, during which time it continued, it carried off not less than 60,000 people. The ravas of this disease have been dreadful wherever it as made its appearance. On the first arrival of e Europeans at the island of Grand Canaria, it ontained 14,000 fighting men, soon after which, o thirds of these inhabitants fell a sacrifice to e plague. The destruction it has made in Turky in Europe, and particularly in Constantinople, ust be known to every reader; and its fatal effects have been particularly heightened there by at firm belief which prevails among the people of predestination, &c. It is generally brought into European Turkey from Egypt; where it is very frequent, especially at GRAND CAIRO. To give even a list of all the plagues which have desolated many flourishing countries, would extend this article beyond all bounds, and minutely to describe them all is impossible. Respecting the plague which raged in Syria in 1760, we refer to the Abbe Mariti's Travels through Cyprus, Syria, and Palestine, vol. 1st, p. 278—296. This plague was one of the most malignant and fatal that Syria ever experienced; for it scarcely made its appearance in any part of the body when it carried off the patient.

(6.) PLAGUE NOT CONTAGIOUS! Among the many bold assertions advanced by modern philosophers, in the present age, we have met with none more astonishing, than that of Dr Moseley, who, in opposition to the fatal experience of all ages, asserts that the plague is "not contagious." In proof of this he quotes many medical writers ancient and modern; but what he chiefly places his confidence in, is founded on his own observations on pestilential fevers in the W. Indies, and on what is said in Berthier's account of Bonaparte's expedition into Syria. "At the time of our entry into Syria, says he, all the towns were infected by the plague, a malady which ignorance and barbarity render so fatal in the east. Those who are affected by it give themselves up for dead; they are immediately abandoned by every body; and are left to die, when they might have been saved by medicine and attention. Citizen Degenettes, principal physician to the army, displayed a courage and character which entitle him to the national gratitude. When our soldiers were attacked by the least fever, it was supposed that they had caught the plague, and these maladies were *confounded*. The fever hospitals were abandoned by the officers of health. Citizen Degenettes repaired in person to them, visited all the patients, felt the glandular swellings, dressed them, declared and maintained that the fever was *not* the plague, but a malignant fever with glandular swellings, which might easily be cured by attention and keeping the patient's mind easy." Degenette's views in making this distinction were highly commendable; "but certainly, says Dr Moseley, this fever was the plague." The physician however carried his courage so far, as to make two incisions, and to inoculate the suppurated matter from one of these buboes above his breast, and under his arm-pits, but was not affected with the malady. He thus eased the minds of the soldiers, (the first step to a cure,) and by his assiduity and attendance, a number of men, attacked with the plague were cured." From these accounts, as well as from all that follows in Dr Moseley's narrative, it is evident, that Dr Moseley has never once *seen* a case of the *plague*; that he has mistaken a malignant fever for it, and erected a false hypothesis upon a series of mistaken facts.

(7.) PLAGUE, PREVENTIVE AND CURE FOR THE. In the hospital of St Anthony at Smyrna, it has been long the practice to rub over with warm olive oil the bodies of persons infected by the plague, and it has been successful. It was

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firſt ſuggeſted by Mr Baldwin, the Engliſh conſul, and from him adopted by *P. Luigi di Paira*, who for 27 years expoſed himſelf to infection, by his unremitted attendance on thoſe under this dreadful diſeaſe. During that long period Luigi found no remedy equal to that of rubbing olive oil, by the ſtrongeſt friction, into the whole body of the infected perſon. When the body is thus rubbed, the pores being opened imbibe the oil, and a profuſe perſpiration takes place, by which the poiſonous infection is thrown out. This operation muſt be performed the firſt day of the infection, and muſt be repeated till every particle of infection is removed, and the patient's whole body be in a profuſe ſweat. The patient's ſhirt and bed-clothes muſt not be changed till the perſpiration has ceaſed. The operation muſt be performed in a very cloſe apartment, and a fire pan kept in it, over which ſugar and juniper muſt be thrown to promote the perſpiration.—In 5 years, during which this friction with oil was employed at Smyrna, of 250 perſons, attacked by the plague, the greater part were cured. This oil is alſo uſed with ſucceſs as a preventative, as well as cure. *Philoſ. Mag.* Vol. 2.

* *To* PLAGUE. *v. a.* [from the noun.] 1. To infect with peſtilence. 2. To infeſt with diſeaſe; to oppreſs with calamity —

Thou art not honeſt, and the gods will *plague* thee. *Shak.*

Thus were they *plagu'd*
And worn with famine. *Milton.*

3. To trouble; to teaze; to vex; to haraſs; to torment; to afflict; to diſtreſs; to torture; to embarraſs; to excruciate; to make uneaſy; to diſturb. In this ſenſe it is uſed ludicrouſly.—

She will *plague* the man that loves her moſt. *Spenſer.*

—People are ſtormed out of their reaſon, *plagued* into a compliance, and forced to yield. *Collier.*—

—When a Neapolitan cavalier has nothing elſe to do, he falls a tumbling over his papers, to ſee if he can ſtart a law ſuit, and *plague* any of his neighbours. *Addiſon.*

* PLAGUILY. *adv.* [from *plague*.] Vexatiouſly; horribly. A low word.—He has me ſo *plaguily* under the laſh, I dare not interrupt him. *Dryden.*—

The doctor was *plaguily* down in the hips. *Swift.*

* PLAGUY. *adj.* [from *plague*.] Vexatious; troubleſome. A low word.—

Of heats,
Add one more to the *plaguy* bill. *Donne.*

What *plaguy* miſchiefs and miſhaps
Do dog him ſtill with after-claps? *Hudibras.*

PLAIAR, a town of European Turkey, in Romania; 6 miles S. of Gallipoli.

(1.) * PLAICE. *n. ſ.* [*plate*, Dutch.] A flat fiſh.—Of flat fiſh there are ſoles, flowkes, dabs and *plaice*. *Carew.*

(2.) PLAICE, or PLAISE, is the Engliſh name of a ſpecies of pleuronectes. See PLEURONECTES.

* PLAID. *n. ſ.* A ſtriped or variegated cloth; an outer looſe weed worn much by the Highlanders in Scotland: there is a particular kind worn too by the women.

* PLAILLY, a town of France, in the department of the Oiſe; 6 miles S. of Senlis.

(1.) * PLAIN. *adj.* [*planus*, Lat.] 1. Smooth; level; flat; free from protuberances or excreſcences. In this ſenſe, eſpecially in philoſophical writings, it is frequently written *plane*: as, a *plane* ſuperficies.—It was his policy to make all *plain* and waſte. *Spenſ.*—The S. and South-Eaſt ſide are rocky and mountainous, but *plain* in the mid. *Sandys.*—They were wont to make their cares or boats *plain* without, and hollow within. *Hayw.*

To break the clods, and make the ſurface *plain*. *Dryden.*

—Hilly countries afford the moſt entertaining proſpects, though a man would chuſe to travel over a *plain* one. *Addiſon.* 2. Open; clear; free. Our troops beat an army in *plain* fight and open field. *Felton.* 3. Void of ornament; ſimple.

Plain without pomp, and rich without a ſhow. *Dryden.*

Men of wealth may venture to go *plain*. *Trapp.*

4. Artleſs; not ſubtle; not ſpecious; not feigned; ſimple.—It is better to chuſe men of a plainer ſort, that are like to do that that is committed to them. *Bacon.*—Of many *plain*, yet pious chriſtians, this cannot be affirmed *Hammond.*—An author that writ like a *plain* man, and one whoſe profeſſion was to tell truth. *Temple.*—

My heart was made to fit and pair within,
Simple and *plain*. *Rowe.*

Muſt then at once, the character to ſave,
The *plain* rough hero turn a crafty knave? *Pope.*

5. Honeſtly rough; open; ſincere; not ſoft in language.—Give me leave to be *plain* with you. *Bacon.* 6. Mere; bare.—He that begui'd you in a *plain* accent, was a *plain* knave. *Shak.*—

Some have at firſt for wits, then poets paſt,
Turn'd criticks next, and prov'd *plain* fools at laſt. *Pope.*

7. Evident; clear; diſcernible; not obſcure.—Expreſſions, which to them ſeemed very clear and *plain*. *Clar.*—

Expreſs thyſelf in *plain*, not doubtful words. *Dryden.*

—I can make the difference more *plain*, by giving you my method of proceeding. *Dryden.*—That *plain* in the hiſtory, that Eſau was never ſubject to Jacob. *Locke.*—That children have ſuch a right is *plain* from the laws of God. *Locke.*—It is plain that theſe diſcourſes are calculated for none, but the faſhionable part of womankind. *Addiſon.*—

Divide the ſimple, and the *plain* define. *Prior.*

8. Not varied by much art; ſimple.—

A plaining ſong *plain*-ſinging voice requires. *Sidney.*

—His diet was of the *plaineſt* meats. *Fell.*

(2.) * PLAIN. *adv.* 1. Not obſcurely. 2. Diſtinctly; articulately.—The ſtring of his tongue was looſed, and he ſpake *plain*. *Mark* vii. 3. Simply; with rough ſincerity.—Goodman Phillip allowed by every body to be a *plain*-ſpoken perſon. *Addiſon.*

(3.) * PLAIN. *n. ſ.* [*plaine*, Fr.] Level ground; open field; oppoſed to hilly ground; often a field of battle.—In a *plain* in the land of Shinar they dwelt. *Gen.* xi. 2.—The Scots took the Engliſh

foolish birds fallen into their net, forsook their
, and marched into the *plain* directly towards
n. *Hayward.*—They erected their castles and
itations in the *plains* and open countries. *Da-*
.—Pour forth Britannia's legions on the *plain.*
uthnot.—

While here the ocean gains,
other parts it leaves wide sandy *plains.* *Pope.*
The impetuous courser pants in ev'ry vein,
nd pawing seems to beat the distant *plain.* *Pope.*

.) PLAIN, in geography, a town of Bavaria,
itzburg, 2 miles N. of Saltzburg.

.) *A* PLAIN ANGLE is one contained under
lines, or surfaces, in contradistinction to a
angle. See ANGLE.

.) PLAIN CHART. See CHART.

.) *A* PLAIN FIGURE, in geometry, is an uni-
surface; from every point of whose perime-
ight lines may be drawn to every point in the

.) PLAIN SAILING. See NAVIGATION, *Part*
&c. I.

.) PLAIN TRIANGLES, those included under
right lines. The doctrine is termed *plain*
ometry. See TRIGONOMETRY.

.) * *To* PLAIN. *v. a.* [from the noun.] To
; to make even.—Upon one wing the artille-
is drawn, every piece having his guard of
eers to *plain* the ways. *Hayward.*

.) * *To* PLAIN. *v. n.* [*plaindre, je plains,* Fr.]
ament; to wail. Little used.—

But more I *plain,* I feel my woes the more.
Sidney.

The fox, that first this cause of grief did
find,
an first thus *plain* his cause with words un-
kind. *Spenser.*

The incessant weeping of my wife,
d piteous *plainings* of the pretty babes,
re'd me to seek delays. *Shak.*
He to himself thus *plain'd.* *Milton.*

) * PLAINDEALING. *adj.* [*plain* and *deal.*]
ft; open; acting without art.—It must not
aid, but I am a *plaindealing* villain. *Shak.*
ng a *plaindealing* innocence into a consistency
ecessary prudence. *L'Estrange.*

) * PLAINDEALING. *n. s.* Management void
; sincerity.—I am no politician; and was
hought to have too little wit, and too much
ealing for a statesman. *Denham.*—
t looks as fate with nature's law may strive,
shew *plaindealing* once an age would thrive.
Dryden.

IN DU NORD, a town of Hispaniola, 39
SE. of Port de Paix.

AINE, a town of France, in the dep. of
and Loire; 15 miles SW. of Montreuil
.

PLAINFIELD, a flourishing town of Con-
ut in Windham county, pleasantly seated on
g ground, on the E. bank of the Quinabaug,
es NE. of Northwick. It has 2 presbyte-
urches and an academy. It is 12 miles E.
ndham and 237 from Philadelphia.

PLAINFIELD, a township of Massachusetts,
nplshire county; containing 458 citizens in
It is 120 miles W. by N. of Boston.

(3.) PLAINFIELD, a township of New Hamp-
shire, in Cheshire county, on the E. bank of the
Connecticut; containing 1024 citizens in 1795.

(4.) PLAINFIELD, a township of Pennsylvania,
in Northampton county.

* PLAINLY. *adv.* [from *plain.*] 1. Levelly;
flatly. 2. Not subtilly; not speciously. 3. With-
out ornament. 4. Without gloss; sincerely.—
You write to me with the freedom of a friend,
dealing *plainly* with me in the matter. *Pope.* 5.
In earnest; fairly.—They gave ground, and at
last *plainly* run to a safe place. *Clarend.* 6. Evi-
dently; clearly; not obscurely.—They are not
only set down, but also *plainly* set down in scrip-
ture. *Hooker.*—Coriolanus, out of his carelessness,
let's them *plainly* see't. *Shak.*—One may perceive
plainly, that he thought the Anti-nicene church,
both before and after Origen, to be of a very con-
trary judgment to that which he condemns in Lu-
cian and Origen. *Waterland.*—

Thy great deliverer, who shall bruise
The serpent's head; whereof to thee anon
Plainlier shall be reveal'd. *Milton.*

—We see *plainly* that we have the means. *Addison.*

* PLAINNESS. *n. s.* [from *plain.*] 1. Level-
ness; flatness. 2. Want of ornament; want of
show.—

We in our *plainness* may be justly proud.
Dryden.

Modest *plainness* sets off sprightly wit. *Pope.*
3. Openness; rough sincerity.—I have not chosen
Dametas for his fighting nor for his discourling,
but for his *plainness* and honesty. *Sidney.*—

Your *plainness* and your shortness please me
well. *Shak.*
When pow'r to flatt'ry bows; to *plainness'* honour
Is bound, when majesty to folly falls. *Shak.*

—*Plainness* and freedom, an epistolary style requir-
ed. *Wake.* 4. Artlessness; simplicity.—

Unthinking *plainness* so o'erspreads thy mind,
That thou could'st seriously persuade the crowd
To keep their oaths. *Dryden.*

* PLAINT. *n. s.* [*plainte,* Fr.] 1. Lamenta-
tion; complaint; lament.—

Then pour out *plaint,* and in one word say
this;
Helpless his *plaint,* who spoils himself of bliss.
Sidney.

Bootless are *plaints,* and cureless are my wounds.
Shak.

From inward grief
His bursting passion into *plaints* thus pour'd.
Milton.

2. Exprobration of injury.—There are three just
grounds of war with Spain; one of *plaint,* two
upon defence. *Bacon.* 3. Expression of sorrow.—

How many childrens *plaints,* and mothers
cries! *Daniel.*
Yet even these gentle walls allow my moan,
Whose doleful echoes to my *plaints* agree.
Wotton.

Listening where the hapless pair
Sat in their sad discourse, and various *plaint,*
Thence gather'd his own doom. *Milton.*
Receive these *plaints.* *Waller.*

* PLAINTFUL. *adj.* [*plaint* and *full.*] Com-
plaining

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plaining; audibly sorrowful.—To what a sea of miseries my *plaintful* tongue doth lead me. *Sidney.*

(1.) * PLAINTIFF. *adj.* [*plaintif*, Fr.] Complaining. A word not in use.—

His younger son on the polluted ground,
First fruit of death, lies *plaintiff* of a wound
Giv'n by a brother's hand. *Prior.*

(2.) * PLAINTIFF. *n. s.* [*plaintiff*, Fr.] He that commences a suit in law against another: opposed to the *defendant*.— The *plaintiff* proved the debt by three positive witnesses. *L'Estrange.*—You and I shall talk in cold friendship at a bar before a judge, by way of *plaintiff* and defendant. *Dryden.*

In such a cause the *plaintiff* will be hiss'd. *Pope.*

* PLAINTIVE. *adj.* [*plaintif*, Fr.] Complaining; lamenting; expressive of sorrow.—

His careful mother heard the *plaintive* sound. *Dryden.*

The goddess heard,
Rose like a morning mist, and thus begun
To sooth the sorrows of her *plaintive* son. *Dryd.*

Can nature's voice
Plaintive be drown'd? *Prior.*

Leviathans in *plaintive* thunders cry. *Young.*

PLAINVILLE, a town of France, in the dep. of the Oise; 6 miles E. of Bretueil.

* PLAINWORK. *n. s.* [*plain* and *work*.] Needlework as distinguished from embroidery; the common practice of sewing or making linen garments.—

She went to *plainwork*. *Pope.*

PLAJOW, a town in the island of Borneo, 150 miles N. of Banjar-Massin.

(1.) PLAISANCE, a town of France, in the dep. of the Gers; 11 miles SSE. of Nagaro, and 23 W. of Auch.

(2.) PLAISANCE, a town of Hispaniola, 36 miles SW. of Cape François.

PLAISE. See PLEURONECTES.

* PLAIT. *n. s.* [corrupted from *plight* or *plyght*, from to *ply*, or fold.] A fold; a double.—

These *plaits* and folds the sound restrain,
That it the organ may more gently touch.
Davies.

Nor shall thy lower garments artful *plait*,
Arm their chaste beauties with a modest pride,
And double ev'ry charm they seek to hide.
Prior.

—'Tis very difficult to trace out the figure of a vest through all the *plaits* and foldings of the drapery. *Addison.*

* *To* PLAIT. *v. a.* [from the noun.] 1. To fold; to double.—

The busy sylphs surround their darling care,
Some fold the sleeve, while others *plait* the gown.
Pope.

Will she on sunday morn thy neckcloth *plait*?
Gay.

2. To weave; to braid.—Let it not be outward adorning of *plaiting* the hair. 1 *Peter*, iii. 3.—

I'll weave her garlands, and I'll *plait* her hair.
Prior.

—Your hands have not been employed in *plaiting* the hair, and adorning your persons. *Law.* 3. To intangle; to involve.—

Time shall unfold what *plaited* cunning hides.
Shak.

* PLAITER. *n. s.* [from *plait*.] He that plaits.

PLAK, a town of Hungary, 5 miles S. of Colchau.

(1.) * PLAN. *n. s.* [*plan*, French.] 1. A scheme; a form; a model.—

Remember, O my friends, the laws, the rights
The generous *plan* of power delivered down
From age to age by your renown'd forefathers.
Addison.

2. A plot of any building or ichnography; form of any thing laid down on paper.—

Artists and *plans* reliev'd my solemn hours.
Prior.

(2.) PLAN, in general, denotes the representation of something drawn on a plane; such are maps, charts, ichnographies, &c. See MAP, CHART, &c.

(3.) PLAN, in architecture, (§ 1, *def.* 2.) is particularly used for a draught of a building, such as it appears, or is intended to appear on the ground, showing the extent, division, and distribution of its area or ground-plot into apartments, rooms, passages, &c. To render plans intelligible, it is usual to distinguish the massives with a black wash; the projectures on the ground are drawn in full lines, and those supposed over them in dotted lines. The augmentations or alterations to be made are distinguished by a colour different from what is already built; and the tints of each plan made lighter as the stories are raised. In large buildings it is usual to have 3 several plans for the 3 first stories.

(4.) PLAN, in geography, a town of Bohemia, in Pilsen.

(5.) PLAN, a town of France, in the dep. of the Upper Garonne; 6 miles S. of Rieux.

(6.) PLAN, a town of Spain, in Aragon; 15 miles S. of Ainsa.

(7.) PLAN DE BAIS, a town of France, in the dep. of the Drome; 9 miles NE. of Crest.

(8.) PLAN, GEOMETRICAL, is that wherein the solid and vacant parts are represented in their natural proportions.

(9.) PLAN, PERSPECTIVE, is that exhibited by degradations or diminutions, according to the rules of perspective. See PERSPECTIVE.

(10.) PLAN, RAISED, OF A BUILDING, is the same with what is otherwise called an *elevation of orthography*. See ORTHOGRAPHY, § 3, 4.

* *To* PLAN. *v. a.* [from the noun.] To scheme; to form in design.—

Plan with all thy arts the scene of fate.

(1.) PLANA, a town of Spain, in Valentia; 6 miles E. of Segorbo.

(2.) PLANA, a town of Sweden, in W. Gothland, 30 miles ENE. of Uddevalla.

* PLANARY. *adj.* Pertaining to a plane.

PLANASIA, in ancient geography; 1. an island in the Tyrrhene Sea: 2. a town on the Rhone: 3. an island, on the coast of Gaul, where Tiberius ordered Agrippa the grandson of Augustus to be murdered. *Tac. Ann.* i. 3.

* PLANCHED. *adj.* [from *planch*.] Made of boards.—

To that vineyard is a *planched* gate,
That makes his opening with this bigger hedge.

* PLANCHER. *n. s.* [*plancher*, French.] A floor of wood. Not used.—Oak, cedar and

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are the beſt builders; ſome are beſt for *planks*, as deal. *Bacon.*

PLANCHES, a town of France, in the dep. of Jura, 7 miles SE. of Nozeroy, and 17 SE. of Digny.

PLANCHING. *n. ſ.* In carpentry, the laying floors in a building. *Dict.*

PLANCOE, a town France, in the dep. of th Coaſts, 8 miles NW. of Dinan, and 11 NE. of Lamballe.

(1.) PLANCUS, Lucius MUNATIUS, a writer the Auguſtan age, but a very verſatile character. He was an orator and a diſciple of Cicero. was with Cæſar in Gaul, was a governor of a vince in Gallia Celtica, where he built LUGUM, (now LYONS;) and was made conſul a with Brutus. He then favoured the republ cauſe, but afterwards deſerted to Cæſar. He aced himſelf ſtill more, by becoming a mean rer of Antony and Cleopatra; to pleaſe n he acted as a ſtage dancer, and in a comeperſonated the ſea-god GLAUCUS, by dancing naked, with his body painted green, a n of reeds on his head, and the tail of a large appended to his back. Finding that this ſyantic adulation procured him contempt inof approbation, even from Antony, he deto Octavius, before the battle of Actium; received him with great marks of reſpect; Plancus returned by propoſing in the ſeto confer on him the title of AUGUSTUS. t this period Horace dedicated his 7th Ode x. The elegance of his *Letters to Cicero*, are ſtill extant, prove that he was not unof a literary compliment.

) PLANCUS. See MUNATIUS.

) PLANCUS, Francis, M. D. was born at A- in 1696, and was author of ſome works do honour to his memory. 1. A complete m of Surgery, in 2 vols 12mo: 2. A choice ry of Medicine: this curious collection, conand completed by M. Goulin, makes 9 vols r 18 vols 12mo. 3. A Tranſlation of Van-ſi's Obſervations on Medicine and Surgery, 2 vols 12mo. Plancus was the editor of s editions of works on medicine and ſurgend enriched them with notes. He died Sept. 1765, aged 69.

PLANCY, a town of France, in the dep. of Aube, 7½ miles W. of Arcis.

(1.)* PLANE. *n. ſ.* [*planus*, Lat. *Plain* is commonly uſed in popular language, and *plane* in geometry.] 1. A level ſurface.—Comets, as often as y are viſible to us, move in *planes* inclined to *plane* of the ecliptick in all kinds of angles. *ntley.*—Projectiles would ever move on in the e right line, did not the air, their own gravity, the ruggedneſs of the *plane*, on which they ve, ſtop their motion. *Cheyne.* 2. [*Plane*, Fr.] inſtrument by which the ſurface of boards is oothed.—The iron is ſet to make an angle of with the ſole of the *plane*. *Moxon.*

2.) PLANE, in geometry, denotes a ſurface that evenly between its bounding lines: and as a t line is the ſhorteſt extenſion from one point nother, ſo a plane ſurface is the ſhorteſt exſion from one line to another.

3.) PLANE, in aſtronomy, conics, &c. is frequently uſed for an imaginary ſurface, ſuppoſed to cut and paſs through ſolid bodies; and on this foundation is the whole doctrine of conic ſections built. See ASTRONOMY, CONIC SECTIONS, &c.

(4.) PLANE, in joinery, (§ 1, *def.* 2.) conſiſts of a piece of wood very ſmooth at bottom, as a ſtock or ſhaft; in the midſt of which is an aperture, through which a ſteel edge, or chiſſel, placed obliquely, paſſes; which, being very ſharp, takes off the inequalities of the wood along which it ſlides.

(5.) PLANE, INCLINED. See INCLINED PLANE, and MECHANICS, *Part* II. *Sect.* IV.

(6.) PLANE OF PROJECTION, in the ſtereographic projection of the ſphere, is that on which the projection is made, correſponding to the perſpective plane. See PROJECTION.

(7.) PLANE, PERSPECTIVE, in perſpective, is ſuppoſed to be pellucid, and perpendicular to the horizon; the horizontal plane, ſuppoſed to paſs through the ſpectator's eye, parallel to the horizon; the geometrical plane, likewiſe parallel to the horizon, wherein the object to be repreſented is ſuppoſed to be placed, &c. See PERSPECTIVE.

(8.) PLANES, in mechanics, are either horizontal, that is, parallel to the horizon, or inclined thereto. See MECHANICS. The determining how far any given plane deviates from an horizontal line, makes the whole buſineſs of levelling. See LEVELLING.

(9.) PLANE SAILING. See NAVIGATION, *Part* II. *Sect.* I.

(10.) PLANES OF REFLECTION and REFRACTION, in optics, are thoſe drawn through the incident and reflected or refracted rays. See OPTICS, *Index.*

(11.) * PLANE-TREE. *n. ſ.* [*platanus*, Lat. *plane*, *platane*, Fr.]—The *plane-tree* hath an amentaceous flower conſiſting of ſeveral ſlender ſtamina, which are collected into ſpherical little balls and are barren; but the embryos of the fruit, which are produced on ſeparate parts of the ſame trees, are turgid, and afterwards become large ſpherical balls, containing many oblong ſeeds intermixed with down: it is generally ſuppoſed, that the introduction of this tree into England is owing to lord chancellor Bacon. *Miller.*—

The beech, the ſwimming alder and the *plane*. *Dryden.*

(12.) PLANE TREE, in botany. See PLATANUS.

* *To* PLANE. *v. a.* [*planer*, Fr. from the noun.] 1. To level; to ſmooth; to free from inequalities.—The foundation of the Roman cauſeway was made of rough ſtone, joined with a moſt firm cement; upon this was laid another layer of ſmall ſtones and cement, to *plane* the inequalities of rough ſtone, in which the ſtones of the upper pavement were fixt. *Arbuthnot.* 2. To ſmooth with a plane.—Theſe hard woods are more properly ſcraped than *planed*. *Moxon.*

(1.) * PLANET. *n. ſ.* [*planeta*; Latin; πλανητης; *planette*, Fr.]—*Planets* are the erratick or wandering ſtars, and which are not like the fixt ones always in the ſame poſition to one another; we now number the earth among the primary *planets*, becauſe we know it moves round the ſun, as Saturn, Jupiter, Mars, Venus and Mercury do, and that in a path or circle between Mars and Venus: and

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and the moon is accounted among the secondary *planets* or satellites of the primary, since she moves round the earth: all the *planets* have, besides their motion round the sun, which makes their year, also a motion round their own axes, which makes their day; as the earth's revolving so makes our day and night: it is more than probable, that the diameters of all the *planets* are longer than their axes: we know 'tis so in our earth; and Flamsteed and Cassini found it to be so in Jupiter: Sir Isaac Newton asserts our earth's equatorial diameter to exceed the other about 34 miles; and indeed else the motion of the earth would make the sea rise so high at the equator, as to drown all the parts thereabouts. *Harris.*—

Barbarous villains! hath this lovely face
Rul'd like a wand'ring *planet* over me,
And could it not inforce them to relent? *Shak.*

And *planets*, *planet* struck, real eclipse
Then suffer'd. *Milton.*

—There are seven *planets* or errant stars in the lower orbs of heaven. *Brown.*—The Chaldeans were much devoted to astrological devices, and had an opinion that every hour of the day was governed by a particular *planet*, reckoning them according to their usual order, *Saturn*, *Jupiter*, *Mars*, *Venus*, *Mercury*, *Luna*. *Wilkins.*

(2.) *A* PLANET is a celestial body, revolving round the sun as a centre, and continually changing its position with respect to the fixed stars; whence the name *planet*, πλανητης, Gr. from πλαναω, to wander. The planets are usually distinguished into primary and secondary. The primary ones, called by way of eminence *planets*, are those which revolve round the sun as a centre; and the secondary planets, more usually called *satellites* or *moons*, are those which revolve round a primary planet as a centre, and constantly attend it in its revolution round the sun. The primary planets are again distinguished into superior and inferior. The superior planets are those farther from the sun than our earth; as Mars, Jupiter, Saturn, and the Georgium Sidus; and the inferior planets are those nearer the sun than our earth, as Venus and Mercury. See ASTRONOMY, *Index*. That the planets are opaque and inhabited bodies, like our earth, is thought probable for the following reasons: 1. Since in Venus, Mercury, and Mars, only that part of the disk illuminated by the sun is found to shine; and again, Venus and Mercury, when between the earth and the sun, appear like dark spots or macuæ on the sun's disk; it is evident, that Mars, Venus, and Mercury, are opaque bodies, illuminated by the borrowed light of the sun. And the same appears of Jupiter, from its being void of light in that part to which the shadow of the satellites reaches, as well as in that part turned from the sun; and that his satellites are opaque, and reflect the sun's light, is clearly shown. As Saturn, with his ring and satellites, only yield a faint light, fainter considerably than that of the fixed stars, though these be vastly more remote, and than that of the rest of the planets; it is past doubt that he too with his attendants are opaque bodies. 2. Since the sun's light is not transmitted through Mercury and Venus, when placed against him, it is plain they are dense opaque bodies; which is likewise evident of Jupiter, from his hiding the satellites in his shadow; and therefore by analogy, the same may be concluded of Saturn. 3. From the variable spots of Venus, Mars, and Jupiter, it is evident these planets have a changeable atmosphere; which changeable atmosphere may, by a like argument, be inferred of the satellites of Jupiter; and therefore, by similitude, the same may be concluded of the other planets. 4. In like manner, from the mountains observed in Venus, the same may be supposed in the other planets. 5. Since, then, Saturn, Jupiter, and the satellites of both, Mars, Venus, and Mercury, are opaque bodies shining with the sun's borrowed light, are furnished with mountains, and encompassed with a changeable atmosphere; they have, of consequence, waters, seas, &c. as well as dry land, and are bodies like the moon, and therefore like the earth. And hence it seems also highly probable, that the other planets have their animal inhabitants as well as our earth. *Q. E. D.* See ASTRONOMY, *Index*.

(3.) PLANETS, NEW. A new planet was discovered by M. Piazzi, an Italian astronomer, between Mars and Jupiter, on the first of January, 1801. This discovery had been expected by Prof. M'Laurin and others in the 18th century. A writer in the *Courier*, who signs C. L. and who, in reviewing the Athenian Letters in the *New London Review*, had hinted his expectation of it in March 1800, and offered conjectures as to its size, probable distance, apparent magnitude, and degree of light, proposes that it should be called MINERVA, as the most proper name for a new planet discovered in *this age of science*. The late Prof. Minto proposed the same name for the last discovered planet, called by British astronomers GEORGIUM SIDUS, but more generally by foreigners HERSCHELL after its discoverer.—Other two new planets were discovered by Dr Olbers, on the 28th March, 1802, and proposed to be called CERES and PALLAS. They were seen by Mr Harding, astronomer, assistant to Dr Schroter, on the 19th Feb. 1803. They appeared under 270° right ascension, and 78° N. declination.

PLANETARIUM, *n. s.* an astronomical machine, so called from its representing the motions, orbits, &c. of the planets, agreeable to the Copernican system. See ASTRONOMY, *Index*; and *Plate* XXXII.

(1.) * PLANETARY. *adj.* [*planetaire*, French; from *planet*.] 1. Pertaining to the planets.—

Their *planetary* motions and aspects. *Milton.*
Describe the stars and *planetary* way,
And trace the footsteps of eternal day. *Granv.*

2. Under the dominion of any particular planet.

Darkling they mourn their fate, whom Circe's power,
That watch'd the moon and *planetary* hour,
With words and wicked herbs, from human kind
Had alter'd. *Dryden.*

—I was born in the *planetary* hour of Saturn, and I think, I have a piece of that leaden planet in me. *Spectator.* 3. Produced by the planets.—

Here's gold, go on;
Be as a *planetary* plague. *Shak.*

—We make guilty of our disasters the sun, the moon,

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oon, and the ſtars, as if we were villains by *planetary* influence. *Shak.* 4. Having the nature of planet; erratick.—

We behold bright *planetary* Jove,
Sublime in air. *Blackmore.*

(1.) PLANETARY DAYS.—Among the ancients, e week was divided among the 7 planets, each net having its day. This we learn from Dion ſſius and Plutarch, *Sympoſ.* l. 4. q. 7. Herodo- ſays, that it was the Egyptians who firſt diſ- ered what god, that is, what planet, preſides r each day; for that among this people the nets were directors. And hence it is, that in ſt European languages the days of the week ſtill denominated from the planets; Sunday, nday, &c. See WEEK.

(2.) PLANETARY HOURS, 12th parts of the ar- cial day and night; ſo called becauſe accord- to aſtrologers, a new planet predominates e- y hour, and the day is denominated from that ich predominates the firſt hour of it, as Mon- from the moon, &c. Theſe hours are dou- the length of the civil hour. They are ſtill d by the Jews.

(3.) PLANETARY SYSTEM is the ſyſtem or aſ- bage of the planets, primary and ſecondary, ing in their reſpective orbits, round their mon centre the ſun. See ASTRONOMY, *Ind.*

(4.) PLANETARY YEARS, the periods of time hich the ſeveral planets make their revolutions d the ſun or earth.—As from the proper re- ion of the ſun, the ſolar year takes its origi- : ſo from the proper revolutions of the reſt of planets about the earth, ſo many ſorts of s do ariſe, viz. the Saturnian year, which is ed by 29 Egyptian years, 174 hours, 58 mi- s, equivalent in a round number to 30 ſolar .—The Jovial year, containing 317 days, 14 s, 59 minutes.—The Martial year, contain- 21 days, 23 hours, 31 minutes.—For Venus Mercury, as their years, when judged of regard to the earth, are almoſt equal to the year; they are more uſually eſtimated from un, the true centre of their motions: in which the former is equal to 224 days, 16 hours, inutes; the latter to 87 days, 23 hours, 14 tes.

PLANETICAL. *adj.* [from *planet.*] Pertain- planets.—Add the two Egyptian days in month, the eclypſes of ſun and moon, con- ions and oppoſitions *planetical. Brown.*

PLANETSTRUCK. *adj.* [*planet* and *ſtrike.*] d: *ſidere afflatus.*—

ince I ſaw you, I have been *planetſtruck.* *Suckling.*

ANIEZ, an iſland of France, in the dep. of louths of the Rhone, near the coaſt, in the of Marſeilles.

PLANIFOLIOUS. *adj.* [*planus* and *folium*, Flowers are ſo called, when made up of leaves, ſet together in circular rows round ntre, whoſe face is uſually uneven, rough gged. *Dict.*

PLANIMETRICAL. *adj.* [from *planimetry.*] ning to the menſuration of plane ſurfaces.

* PLANIMETRY. *n. ſ.* [*planus*, Latin, ; *planimetrie*, Fr.] The menſuration of ſurfaces.

(2.) PLANIMETRY is that part of geometry which conſiders lines and plain figures, without conſidering their height or depth. See GEOMETRY.

* PLANIPETALOUS. *adj.* [*planus*, Lat. and .] Flat-leaved, as when the ſmall flowers are hollow only at the bottom, but flat upwards, as in dandelion and ſuccory. *Dict.*

* *To* PLANISH. *v. a.* [from *plane.*] To poliſh; to ſmooth. A word uſed by manufacturers.

(1.) * PLANISPHERE. *n. ſ.* [*planus*, Latin; and *ſphere.*] A ſphere projected on a plane; a map of one or both hemiſpheres.

(2.) PLANISPHERE ſignifies a projection of the ſphere, and its various circles on a plane. See MAP, and PROJECTION.

PLANITZ, a town of Germany, in the circle of Upper Saxony, and in Erzgeburg; 3 miles S. of Zwickaw.

* PLANK. *n. ſ.* [*planche*, Fr.] A thick ſtrong board.—They gazed on their ſhips, ſeeing them ſo great, and conſiſting of divers *planks. Abbot.*—

The doors of *plank* were. *Chapman.*
The ſmoothed *plank* new rubb'd with balm. *Milton.*

—Some Turkiſh bows are of that ſtrength, as to pierce a *plank* of ſix inches. *Wilkins.*—

Deep in their hulls our deadly bullets light,
And through the yielding *planks* a paſſage find. *Dryden.*

Late I ſaw adrift diſjointed *planks. Dryd.*

* *To* PLANK. *v. a.* [from the noun.] To cover or lay with planks.—If you do but *plank* the ground over, it will breed ſaltpetre. *Bacon.*—

The ſides were *plank'd* with pine. *Dryden.*

PLANKENBERG, a town of Germany, in Auſtria; 4 miles SSW. of Tulln.

PLANKENSTEIN, a town of Germany, in Stiria; 4 miles S. of Windiſch Weiſtritz.

PLANKENWARD, a town of Germany, in Stiria; 8 miles W. of Graz.

PLANO, an iſland of the Mediterranean, in the bay of Alicant; about a mile and an half in length.

* PLANOCONICAL. *adj.* [*planus* and *conus.*] Level on one ſide and conical on others.—Some few are *planoconical*, whoſe ſuperficies is in part level. *Grew.*

* PLANOCONVEX. *n. ſ.* [*planus* and *convexus.*] Flat on the one ſide and convex on the other.—It took two object-glaſſes, the one a *planoconvex* for a 14 feet teleſcope, and the other a large double convex for one of about 50 feet. *Newton.*

PLANSCHWITZ, a town of Upper Saxony, in Vogtland; 3 miles W. of Oelſnitz.

(1.) * PLANT. *n. ſ.* [*plant*, Fr. *planta*, Latin.] 1. Any thing produced from ſeed; any vegetable production.—What comes under this denomination, *Ray* has diſtributed under 27 genders or kinds: 1. The imperfect *plants*, which do either totally want both flower and ſeed, or elſe ſeem to do ſo. 2. *Plants* producing either no flower at all, or an imperfect one, whoſe ſeed is ſo ſmall as not to be diſcernible by the naked eye. 3. Thoſe whoſe ſeeds are not ſo ſmall, as ſingly to be inviſible, but yet have an imperfect or ſtaminous flower; *i. e.* ſuch a one, as is without the petals, having

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ving only the ſtamina and the perianthium. 4. Such as have a compound flower, and emit a kind of white juice or milk when their ſtalks are cut off or their branches broken off. 5. Such as have a compound flower of a diſcous figure, the ſeed pappous, or winged with downe, but emit no milk. 6. The herbæ capitatæ, or ſuch whoſe flower is compoſed of many ſmall, long tiſtulous or hollow flowers gathered round together in a round button or head, which is uſually covered with a ſquamous or ſcaly coat. 7. Such as have their leaves entire and undivided into jags. 8. The corymbiferous *plants*, which have a compound diſcous flower, but the ſeeds have no downe adhering to them. 9. *Plants* with a perfect flower, and having only one ſingle ſeed belonging to each ſingle flower. 10. Such as have rough, hairy or briſtly ſeeds. 11. The umbelliferous *plants*, which have a pentapetalous flower, and belonging to each ſingle flower are two ſeeds, lying naked and joining together; they are called umbelliferous, becauſe the *plant*, with its branches and flowers, hath an head like a lady's umbrella: [1.] Such as have a broad flat ſeed almoſt of the figure of a leaf, which are encompaſſed round about with ſomething like leaves. [2.] Such as have a longiſh ſeed, ſwelling out in the middle, and larger than the former. [3.] Such as have a ſhorter ſeed. [4.] Such as have a tuberoſe root. [5.] Such as have a wrinkled, channelated or ſtriated ſeed. 12. The ſtellate *plants*, which are ſo called, becauſe their leaves grow on their ſtalks at certain intervals or diſtances in the form of a radiant ſtar: their flowers are really monopetalous, divided into four ſegments, which look like ſo many petala; and each flower is ſucceeded by two ſeeds at the bottom of it. 13. The aſperifola, or rough-leaved *plants*: they have their leaves placed alternately, or in no certain order on their ſtalks; they have a monopetalous flower cut or divided into five partitions, and after every flower there ſucceed uſually four ſeeds. 14. The ſuffrutices, or verticillate *plants*: their leaves grow by pairs on their ſtalks, one leaf right againſt another; their leaf is monopetalous, and uſually in form of an helmet. 15. Such as have naked ſeeds, more than four, ſucceeding their flowers, which therefore they call polyſpermæ plantæ ſemine nudo; by naked ſeeds, they mean ſuch as are not included in any ſeed-pod. 16. Baccifero us *plants*, or ſuch as bear berries. 17. Multiſiliquous, or corniculate *plants*, or ſuch as have, after each flower, many diſtinct, long, ſlender, and many times crooked caſes or ſiliquæ, in which their ſeed is contained, and which, when they are ripe, open themſelves and let the ſeeds drop out. 18. Such as have a monopetalous flower, either uniform or diſform, and after each flower a peculiar ſeed-caſe containing the ſeed, and this often divided into many diſtinct cells. 19. Such as have an uniform tetrapetalous, flower, but bear theſe ſeeds in oblong ſiliquous caſes. 20. Vaſculiferous *plants*, with a tetrapetalous flower, but often anomalous. 21. Leguminous *plants*, or ſuch as bear pulſe, with a papiilionaceous flower. 22. Vaſculiferous *plants*, with a pentapetalous flower; theſe have, beſides the common calyx, a peculiar caſe containing their ſeed, and their flower conſiſting of five leaves. 23. *Plants* with a true bulbous root, which conſiſts but of one round bu or head, out of whoſe lower part go many fibres to keep it firm in the earth: the plants of this kind come up but with one leaf; they have a footſtalk, and are long and ſlender: the ſeed-veſſels are divided into three partitions: their flower is ſexapetalous. 24. Such as have their fibres approaching to a bulbous form: theſe emit, at their coming up, but one leaf, and in leaves, flowers and roots reſemble the true bulbous *plant*. 25. Culmiferous *plants*, with a graſſy leaf, are ſuch as have a ſmooth hollow-jointed ſtalk, with a ſharp-pointed leaf at each joint, encompaſſing the ſtalk, and ſet out without any foot ſtalk: the ſeed is contained within a chaffy huſk. 26. *Plants* with a graſſy leaf, but not culmiferous, with an imperfect or ſtaminous flower. 27. *Plants*, whoſe place of growth is uncertain and various, called water *plants*.—

Butchers and villains,
How ſweet a *plant* have you untimely cropt!

—Between the vegetable and ſenſitive proven there are *plant*-animals. *Hale*.—The next degree of life above the vegetable, is that of ſenſe: which with ſome of thoſe productions, which we call *plant*-animals, are endow'd. *Grew*.—I conſidered to be the ſame *plant*, as long as it partakes of the ſame life, though that life be communicated to new particles of matter, vitally united to the living *plant*, in a like continued organization, conformable to that ſort of *plants*. *Locke*.—

Every *plant* that drinks the morning dew

Some *plants* the ſun-ſhine aſk, and ſome the ſhade.

2. A ſapling.—A man haunts the foreſt, that buſes our young *plants* with carving Rosalind their barks. *Shak*.—

Take a *plant* of ſtubborn oak,
And labour him.

3. [*Planta*, Lat.] The ſole of the foot.

(2.) PLANT, in natural hiſtory, is defined to be an organical body, deſtitute of ſenſe and ſpontaneous motion, adhering to another body in a manner as to draw from it its nouriſhment, and having a power of propagating itſelf by ſeed. The vegetation and economy of plants is one of thoſe ſubjects in which our knowledge is extremely circumſcribed. A total inattention to the ſtructure and economy of plants is the cauſe of the ſmall progreſs that has been made in the principles of vegetation, and of the inconſtant fluctuation of our theories concerning it; for which reaſon we ſhall give a ſhort deſcription of the ſtructure of plants. See § 10, 14, 17, 19.

(3.) PLANT, BASTARD SENSITIVE. See HEDYSARUM.

(4.) PLANT, BURNING THORNY. See ACACIA, N° 2.

(5.) PLANT, EGG. See SOLANUM, N° 2.

(6.) PLANT, HUMBLE. See MIMOSA.

(7.) PLANT, MOVING. See HEDYSARUM, N° 2. The motions of this plant are ſo extraordinary, and ſo greatly reſemble thoſe of animals, that they have been adduced as a ſtrong proof of the perception and ſenſation of plants: (See

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at ſtill they afford no deciſive evidence. See 24; AVERRHOA, N° 3; DIONÆA; & MOTION.

(18.) PLANT SENSITIVE. See MIMOSA.

(19.) PLANTS, ANIMAL. See ACTINIA, ANIMAL FLOWER, § 1—5; CORALLINES, POLYPUS, and ZOOPHYTES.

(20.) PLANTS, CIRCULATION OF THE SAP IN. Concerning this there have been great diſputes; ome maintaining, that the vegetable ſap has a culation analogous to the blood of animals; hile others affirm, that it only aſcends in the y-time, and deſcends again in the night. In vour of the doctrine of circulation it has been ged, that upon making a tranſverſe inciſion into trunk of a tree, the juice which runs out proeds in greater quantity from the upper than the wer part; and the ſwelling in the upper lip is much greater than in the lower. It appears, wever, that when two ſimilar inciſions are made, near the top and the other near the root, the ter expends much more ſap than the former. nce it is concluded, that the juice aſcends by e ſet of veſſels and deſcends by another. But, ſhow this clearly, it would be neceſſary firſt to ve that there is in plants, as in animals, ſome d of centre from which the circulation begins, d to which it returns; but no ſuch centre has en diſcovered by any naturaliſt; neither is there leaſt proviſion apparently made whereby the might be prevented from deſcending in the ſame veſſels through which it aſcends. In e lacteal veſſels of animals; which we may ſupoſe to be analogous to the roots of vegetables, re are valves which effectually prevent the yle when once abſorbed from returning into the eſſels; but no ſuch thing is obſerved in the ſels of vegetables: whence it muſt be very proble, that when the propelling force ceaſes, the e deſcends by the very ſame veſſels through ich it aſcended. This matter, however, has n cleared up almoſt as well as the nature of the ject will admit of, by the experiments of Dr les. Theſe experiments are ſo numerous, that particular account of them we muſt refer to work itſelf; however, his reaſoning againſt circulation of the ſap will be ſufficiently intelble without them. "We ſee (ſays he), in ny of the foregoing experiments, what quantiof moiſture trees daily imbibe and perſpire: the celerity of the ſap muſt be very great, if quantity of moiſture muſt, moſt of it aſcend top of the tree, then deſcend, and aſcend n, before it is carried off by perſpiration. The ct of a circulation in vegetables ſeems in ſome ture to be ſupplied by the much greater quanof liquor, which the vegetable takes in, than animal, whereby its motion is accelerated; we find the ſun-flower, bulk for bulk, imes and perſpires 17 times more freſh liquor a man, every 24 hours. Beſides, Nature's t aim in vegetables being only that the vegble life be carried on and maintained, there no occaſion to give its ſap the rapid motion ch was neceſſary for the blood of animals. In nals, it is the heart which ſets the blood in ion, and makes it continually circulate; but egetables we can diſcover no other cauſe of the ſap's motion but the ſtrong attraction of the capillary ſap-veſſels, aſſiſted by the briſk undulations and vibrations cauſed by the ſun's warmth, whereby the ſap is carried up to the top of the talleſt trees, and is there perſpired off through the leaves: but when the ſurface of the tree is greatly diminiſhed by the loſs of its leaves, then alſo the perſpiration and motion of the ſap is proportionably diminiſhed, as is plain from many of the foregoing experiments: ſo that the aſcending velocity of the ſap is principally accelerated by the plentiful perſpiration of the leaves, thereby making room for the fine capillary veſſels to exert their vaſtly attracting power, which perſpiration is effected by the briſk rareſying vibrations of warmth; a power that does not ſeem to be any ways well adapted to make the ſap deſcend from the tops of vegetables by different veſſels to the root. The inſtances of the jeſſamine tree, and of the paſſion tree, have been looked upon as ſtrong proofs of the circulation of the ſap, becauſe their branches, which were far below the inoculated bud, were gilded: but we have many viſible proofs in the vine, and other bleeding trees, of the ſap's receding back, and puſhing forwards alternately, at different times of the day and night. And there is great reaſon to think that the ſap of all other trees has ſuch an alternate, receding, and progreſſive motion, occaſioned by the alternacies of day and night, warm and cool, moiſt and dry. For the ſap in all vegetables does probably recede in ſome meaſure from the tops of the branches, as the ſun leaves them; becauſe its rareſying power then ceaſing, the greatly rarefied ſap, and air mixed with it, will condenſe, and take up leſs room than they did, and the dew and rain will then be ſtrongly imbibed by the leaves; whereby the body and branches of the vegetable which have been much exhauſted by the great evaporation of the day, may at night imbibe ſap and dew from the leaves; for by ſeveral experiments, plants were found to increaſe conſiderably in weight, in dewy and moiſt nights. And by other experiments on the vine, it was found that the trunks and branches of vines were always in an imbibing ſtate, cauſed by the great perſpiration of the leaves except in the bleeding ſeaſon; but when at night that perſpiring power ceaſes, then the contrary imbibing power will prevail and draw the ſap and dew from the leaves, as well as moiſture from the roots. And we have a further proof of this by fixing mercurial gages to the ſtems of ſeveral trees which do not bleed, whereby it is found that they are always in a ſtrongly imbibing ſtate, by drawing up the mercury ſeveral inches: whence it is eaſy to conceive, how ſome of the particles of the gilded bud in the inoculated jeſſamine may be abſorbed by it, and thereby communicate their gilding miaſma to the ſap of other branches; eſpecially when, ſome months after the inoculation, the ſtock of inoculated jeſſamine is cut off a little above the bud; whereby the ſtock, which was the counteracting part to the ſtem, being taken away, the ſtem attracts more vigorouſly from the bud. The inſtance of the ilex grafted upon the Engliſh oak, ſeems to afford a very conſiderable argument againſt a circulation. For, if

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there were a free uniform circulation of the ſap through the oak and ilex, why ſhould the leaves of the oak fall in winter, and not thoſe of the ilex. Another argument againſt an uniform circulation of the ſap in trees, as in animals, may be drawn from an experiment, where it was found by the three mercurial gages fixed to the ſame vine, that while ſome of its branches changed their ſtate of protruding ſap into a ſtate of imbibing, others continued protruding ſap; one 9, and the other 13 days longer." This reaſoning of Dr Hales is confirmed by an experiment made by Mr Muſtel of the Academy of Sciences at Rouen, which we need not quote, but only obſerve that it is deciſive againſt the doctrine of circulation.

(11.) PLANTS, COLOURS OF. See COLOUR, § VI.

(12.) PLANTS, DISSEMINATION OF. So great are the prolific powers of the vegetable kingdom, that a ſingle plant almoſt of any kind, if left to itſelf, would, in a ſhort time, over-run the whole. Indeed, ſuppoſing the plant to have been only a ſingle annual, with two ſeeds, it would, in 20 years produce more than a million of its own ſpecies; what numbers then muſt have been produced by a plant whoſe ſeeds are ſo numerous as many of thoſe with which we are acquainted? See NATURAL HISTORY, *Sect.* III. where the very prolific nature of plants, and the means by which they are carried to diſtant places, are noticed. This is a very curious matter of fact. If nature had appointed no means for the ſcattering of theſe numerous ſeeds, but allowed them to fall down in the place where they grew, the young vegetables muſt of neceſſity have choaked one another as they grew up, and not a ſingle plant could have arrived at perfection. But ſo many ways are appointed for the diſſemination of plants, that we ſee they not only do not hinder each others growth, but a ſingle plant will in a ſhort time ſpread through different countries. The moſt evident means for this purpoſe are, 1. The force of the air.—That the efficacy of this may be the greater, nature has raiſed the ſeeds of vegetables upon ſtalks, ſo that the wind has thus an opportunity of acting upon them with the greater advantage. The ſeed-capſules alſo open at the apex, leſt the ripe ſeeds ſhould drop out without being widely diſperſed by the wind. Others are furniſhed with wings, and a pappous down, by which, after they come to maturity, they are carried up into the air, and have been known to fly to the diſtance of 50 miles: 138 genera are found to have winged ſeeds. 2. In ſome plants the ſeed-veſſels open with violence when the ſeeds are ripe, and thus throw them to a conſiderable diſtance; and there are 50 genera whoſe ſeeds are thus diſperſed. 3. Other ſeeds are furniſhed with hooks, by which, when ripe, they adhere to the coats of animals, and are carried by them to their lodging places. Linnæus reckons 50 genera armed in this manner. 4. Many ſeeds are diſperſed by birds and other animals; who pick up the berries, and afterwards eject the ſeeds uninjured. Thus the fox diſſeminates the privet, and man many ſpecies of fruit. The plants found growing upon walls and houſes, on the tops of high rocks, &c. are moſtly brought there by birds; and it is univerſally known, that by manuring a field with new dung, innumerable weeds will ſpring up which did not exiſt there before: 193 ſpecies are reckoned up which may be diſſeminated in this manner. 5. The growth of other ſeeds is promoted by animals in a different way. When ſome are eaten, others are ſcattered and trodden into the ground by them. The ſquirrel gnaws the cones of the pine, and many of the ſeeds fall out. When the loxia eats off their bark, almoſt his only food, many of their ſeeds are committed to the earth, or mixed in the moraſs with moſs, where he had retired. The glandularia, when ſhe hides up her nuts, often forgets them, and they ſtrike root. The ſame is obſervable of the walnut; mice collect and bury great quantities of them, and being afterwards killed by different animals, the nuts germinate. 6. We are aſtoniſhed to find moſſes, fungi, byſſus, and mucor, growing everywhere; but it is for want of reflecting that their ſeeds are ſo minute that they are almoſt inviſible to the naked eye. They float in the air like atoms, and are dropped everywhere, but grow only in thoſe places where there was no vegetation before; and hence we find the ſame moſſes in North America and in Europe. 7. Seeds are alſo diſperſed by the ocean, and by rivers. "In Lapland (ſays Linnæus), we ſee the moſt evident proofs how far rivers contribute to diſperſe the ſeeds of plants. I have ſeen Alpine plants growing upon their ſhores frequently 36 miles diſtant from the Alps; for their ſeeds falling into the rivers, and being carried along and waſhed by the ſtream take root there.—We may gather likewiſe from many circumſtances how much the ſea furthers this buſineſs.—In Roſlagia, the iſland of Græſœa, Oeland, Gothland, and the ſhores of Scania, there are many foreign and German plants not yet naturaliſed in Sweden. The century is a German plant, whoſe ſeeds being carried by the wind into the ſea, the waves landed this plant upon the coaſts of Sweden. I was aſtoniſhed to ſee the veronica maritima, a German plant growing at Tornea, which hitherto had been found only in Græſœa: the ſea was the vehicle by which this plant was tranſported thither from Germany, or poſſibly it was brought from Germany to Gotland, and from thence to Tornea. Many have imagined, but erroneouſly, that ſeed corrupts in water, and loſes its principle of vegetation. Water at the bottom of the ſea is ſeldom warm enough to deſtroy ſeeds; we have ſeen water over the ſurface of a field for a whole winter, while the ſeed which it contained remained unhurt, unleſs at the beginning of ſpring the waters were let down ſo low by drains, that the warmth of the ſun-beams reached to the bottom. Then the ſeeds germinate, but preſently become putrecent; ſo that for the reſt of the year the earth remains naked and barren. Rain and ſhowers waſh ſeeds into the cracks of the earth, ſtreams and rivers; which laſt, conveying them to a diſtance from their native places, plant them in a freſh ſoil." 8. Laſtly, ſome ſeeds aſſiſt their projection to a diſtance in a very ſurpriſing manner. The ſcrupina, a ſpecies of centaury, has its ſeeds covered over with erect briſtles, by whoſe aſſiſtance it creeps and moves about in ſuch a manner, that

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by no means to be kept in the hand. If you ıfine one of them between the ſtocking and the t, it creeps out either at the ſleeve or neck- ıd, travelling over the whole body. If the rded oat, after harveſt, be left with other grain he barn, it extricates itſelf from the glume; does it ſtop in its progreſs till it gets to the ls of the building. Hence, ſays Linnæus, the ecarlian, after he has cut and carried it into barn, in a few days finds all the glumes empty the oats ſeparate from them; for every oat a ſpiral ariſta or beard annexed to it, which is racted in wet, and extended in dry weather. en the ſpiral is contracted, it drags the oat a- ; with it: the ariſta being bearded with minute s pointing downward, the grain neceſſarily ows it; but when it expands again, the oat s not go back to its former place, the rough- of the beard the contrary way preventing its rn. If you take the ſeeds of equiſetum, or , theſe being laid upon paper, and viewed in croſcope, will be ſeen to leap over any ob- e as if they had feet; by which they are ſepa- one from another; ſo that a perſon ignorant his property would pronounce theſe ſeeds to many mites or ſmall inſects.

3.) PLANTS, EXTRACTION OF COLOURS M. See COLOUR-MAKING, § 71—99.

4.) PLANTS, FLOWERS OF. It is needleſs to mention any thing of the texture, or of the &c. of flowers, as they are pretty ſimilar to of the leaf. For the characters and diſtinc- of flowers, See BOTANY, *Index*. There is curious fact, however, which muſt be here ed, viz. That every flower is perfectly form- its parts many months before it appears rdly; that is, the flowers which appear ear, are not properly ſpeaking the flowers is year, but of the laſt. For example, me- n generally flowers in January; but theſe rs were completely formed in the month of ſt preceding. Of this fact any one may himſelf by ſeparating the coats of a tulip- bove the beginning of September; and he nd that the two innermoſt form a kind of in the centre of which ſtands the young flow- hich is not to make its appearance till the ring April or May. *Fig.* 18. *Pl.* 276. exhibits of the tulip-root when diſſected in Sept. the young flower towards the bottom.

5.) PLANTS, FOOD OF.—This will be found ſed under the article RURAL OECONOMY. nethod of making OXYGEN GAS is now ſo improved, that numberleſs experiments e made with it both on animals and vege- . It appears, indeed, that theſe two parts of eation are a kind of counterbalance to one er: and the noxious parts or excrements of e prove ſalutary food to the other. Thus, he animal body continually paſs off certain a, which vitiate the air. Nothing can be prejudicial to animal life than an accumula- f theſe effluvia: on the other hand, nothing e favourable to vegetables than thoſe excre- ious effluvia of animals, and accordingly greedily abſorb them from the earth, or he air. With reſpect to the excrementiti- rts of living vegetables, the caſe is reverſed. The pureſt air is the common effluvium which paſſes off from vegetables; and this, however favourable to animal life, is by no means ſo to vegetable. See § 23.

(16.) PLANTS, FOSSIL. Many ſpecies of tender and herbaceous plants are found at this day, in great abundance, buried at conſiderable depths in the earth, and converted, as it were, into the nature of the matter they lie among; foſſil wood is often found very little altered, and often impregnated with ſubſtances of almoſt all the different foſſil kinds, and lodged in all the ſeveral ſtrata, ſometimes firmly imbedded in hard matter; ſometimes looſe: but this is by no means the caſe with the tenderer and more delicate ſubjects of the vegetable world. Theſe are uſually immerſed either in a blackiſh flaty ſubſtance, found lying over the ſtrata of coal, or elſe in looſe nodules of ferruginous matter of a pebble-like form; and they are always altered into the nature of the ſubſtance they lie among: what we meet with of theſe are principally of the fern kind; and what is very ſingular, though a very certain truth, is, that theſe are principally the ferns of American growth, not thoſe of our own climate. The moſt frequent foſſil plants are the polypody, ſpleenwort, oſmund, trichomanes, and the ſeveral larger and ſmaller ferns; but beſides theſe there are alſo found pieces of the equiſetum or horſe-tail, and joints of the ſtellated plants, as the clivers, madder, and the like; and theſe have been too often miſtaken for flowers; ſometimes there are alſo found complete graſſes, or parts of them, as alſo reeds, and other watery plants; ſometimes the ears of corn, and not unfrequently the twigs or bark, and impreſſions of the bark, and fruit of the pine or fir kind, which have been, from their ſcaly appearance, miſtaken for the ſkins of fiſhes; and ſometimes, but that very rarely, we meet with moſſes and ſea-plants. Many of the ferns not unfrequently found, are of very ſingular kinds, and ſome ſpecies yet unknown to us; and the leaves of ſome appear ſet at regular diſtances, with round protuberances and cavities. The ſtones which contain theſe plants ſplit readily, are often found to contain, on one ſide, the impreſſion of the plant, and on the other the prominent plant itſelf: and, beſide all that have been mentioned, there have been frequently ſuppoſed to have been found with us ears of common wheat, and of the maize or Indian corn; the firſt being in reality no other than the common endmoſt branches of the firs, and the other the thicker boughs of various ſpecies of that and of the pine kind, with their leaves fallen off; ſuch branches in ſuch a ſtate cannot but afford many irregular tubercles and papillæ, and, in ſome ſpecies, ſuch as are more regularly diſpoſed. Theſe are the kinds moſt obvious in England; and theſe are either immerſed in the flaty ſtone which conſtitutes whole ſtrata, or in flatted nodules, uſually of about three inches broad, which readily ſplit into two pieces on being ſtruck. They are moſt common in Kent, in coal-pits near Newcaſtle, and the foreſt of Dean in Glouceſterſhire; but are more or leſs found about almoſt all our coal-pits, and many of our iron mines. Though theſe ſeem the only ſpecies of plants found with us, yet

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in Germany there are many others, and those found in different substances. A whitish stone, a little harder than chalk, frequently contains them: they are found also often in a grey flaty stone of a firmer texture, not unfrequently in a blackish one, and at times in many others. Nor are the bodies themselves less various here than the matter in which they are contained; the leaves of trees are found in great abundance, among which those of the willow, poplar, whitethorn, and pear trees, are the most common; small branches of box, leaves of the olive tree, and stalks of garden thyme, are also found there; and sometimes ears of the various species of corn, and the larger as well as the smaller mosses in great abundance. These seem the tender vegetables, or herbaceous plants, certainly found thus immersed in hard stone, and buried at great depths in the earth: others of many kinds there are also named by authors; but as in bodies so imperfect errors are easily fallen into, these seem all that can be ascertained beyond mere conjecture.

(17. PLANTS, FRUITS OF. In describing the structure of fruits, a few examples shall be taken from such as are most generally known. A *pear*, besides the skin, which is a production of the skin of the bark, consists of a double parenchyma or pulp, sap, and air-vessels, calculary and acetary. The outer parenchyma is the same substance continued from the bark, only its bladders are larger and more succulent. It is everywhere interspersed with small globules or grains, and the bladders respect these grains as a kind of centres, every grain being the centre of a number of bladders. The sap and air-vessels in this pulp are extremely small. Next the core is the inner pulp or parenchyma, which consists of bladders of the same kind with the outer, only larger and more oblong, corresponding to those of the pulp, from which it seems to be derived. This inner pulp is much surer than the other, and has none of the small grains interspersed through it; and hence it has got the name of *acetary*. Between the acetary and outer pulp, the globules or grains begin to grow larger, and gradually unite into a hard stony body, especially towards the corculum or seed of the fruit; and from this circumstance it has been called the *calculary*. These grains are not derived from any of the organical parts of the tree; but seem rather to be a kind of concretions precipitated from the sap, similar to the precipitation from wine, urine, and other liquors. The core is a roundish cavity in the centre of the pear, lined with a hard woody membrane, in which the seed is inclosed. At the bottom of the core there is a small duct or canal, which runs up to the top of the pear; this canal allows the air to get into the core, for the purpose of drying and ripening the seeds. *Fig.* 19. *Pl.* 276. a transverse section of a pear, as is seen by the naked eye. A, the skin, and a ring of sap-vessels. B, the outer parenchyma, or pulp, with its vessels, and ligneous fibres interspersed. C, the inner parenchyma, or acetary, with its vessels, which are larger than the outer one. D, the core and seeds. *Fig.* 20. a piece cut off *fig.* 19. *Fig.* 21. is fig. 20. magnified. A A A, the small grains or globies, with the vessels radiated from them. *Fig.* 22. a longitudinal section of the pear, showing a different view of the parts with those of fig. 19. A the channel, which runs from the top of the pear to the bottom of the core. In a *lemon*, the parenchyma appears in three different forms. The pericarp of the rind is of a coarse texture, being made of thick fibres, woven into large bladders. The nearest the surface contain the essential oil of the fruit, which bursts into a flame when the fruit squeezed over a candle. From this outmost parenchyma 9 or 10 insertions or lamellæ are produced, which run between as many portions of the pulp, and unite into one body in the centre of the fruit, which corresponds to the pith in trees or roots. At the bottom and top of the fruit this pith evidently joins with the rind, without the intervention of any lamellæ. This circumstance shows, that the pith and bark are actually connected in the trunk and roots of plants, though it is difficult to demonstrate the connection, on account of the closeness of their texture and the minuteness of their fibres. Many vessels are dispersed through the whole of this parenchyma; but the largest ones stand on the inner surface of the rind, and the outer edge of the pith, and at the two extremities of each lamella. The third kind of parenchyma is placed between the rind and the pith; is divided into distinct bags by the lamellæ; and each of these bodies forms a large bag. These bags contain a 3d parenchyma, which is a cluster of smaller bags, distinct and unconnected with each other, having a small tail by which they are fixed to the large bag. Within each of these small bags are many hundred bladders, composed of extremely minute fibres. These bladders contain the acid juice of the lemon. *Fig.* 12. *Pl.* 275. a longitudinal section of a lemon. A A A, the rind with the vessels which contain the essential oil. B B, the substance corresponding to the pith, formed by the union of the lamellæ or insertions. C C, its continuation and connection with the rind, independent of the insertions. *Fig.* 13. a transverse section of the fruit. B B B, &c. the nine pulpy bags, or third parenchyma, placed between the rind and the pith, and the cluster of small bags, which contain the acid juice, inclosed in the large ones. C C, the large vessels that surround the pith. D D, one of the large bags laid open, showing the seeds and their connection with the lamellæ or membranes which form the large bags.

(18.) PLANTS GROWING ON ANIMALS. See INSECTS, § 10.

(19.) PLANTS, LEAVES OF. The leaves of plants consist of the same substance with that of the trunk. They are full of nerves or woody fibrations, running in all directions, and branching into innumerable small threads, interwoven with the parenchyma like fine lace or gauze. The skin of the leaf, like that of an animal, is full of pores, which both serve for perspiration and for the absorption of dews, air, &c. These pores in different pieces differ both in shape and magnitude in different plants, which is the cause of that variety in texture or grain peculiar to every plant. The pulpy or parenchymatous part consists of very minute fibres, wound up into small cells or bladders. These cells are of various sizes in the

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Anatomy of PLANTS.

Plate CCLXXV

rden Bean

Fig. 2.

Fig. 7.

Fig. 5. *Radicle*

Fig. 6. *Plume*

Slice of a Bean

Fig. 4.

Fig. 12. Lemon *cut down*

nd wood Root

Both cut Transversely

Fig. 10. Ash Branch

Fig. 9. *Section of*
Fig. 8 *Magnify'd*

Fig. 3.

Fig. 15.

Fig. 11.

Transverse Section of the Ash Branch *magnified.*

Fig. 13.

Stem cut Transversely

Fig. 17.

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af. All leaves, of whatever figure, have a margi-
l fibre, by which all the reſt are bounded. The
rticular ſhape of this fibre determines the figure
f a leaf. The veſſels of leaves have the appear-
ce of inoſculating; but, when examined by the
icroſcope, they are found only to be interwo-
n or laid along each other. *Air-veſſels*, or thoſe
hich carry no ſap, are viſible even to the naked
e in ſome leaves. When a leaf is ſlowly broke,
ey appear like ſmall woolly fibres, connected to
th ends of the broken piece. *Fig.* 14. *Pl.* 275. The
ppearance of the air-veſſels to the eye, in a vine-
af drawn gently aſunder. *Fig.* 15. A ſmall piece
t off that leaf. *Fig.* 16. The ſame piece mag-
fied, in which the veſſels have the appearance
a ſcrew. *Fig.* 17. The appearance of theſe
ſſels as they exiſt in the leaf before they are
tched out.

(26.) PLANTS, METHOD OF DRYING AND PRE-
RVING, FOR BOTANICAL PURPOSES. Many
ethods have been deviſed for the preſervation of
ants: we ſhall relate only thoſe that have been
nd moſt ſucceſsful. Firſt prepare a preſs,
ch a workman will make by the following di-
ions. Take two planks of a wood not liable
warp. The planks muſt be two inches thick,
inches long, and 12 inches broad. Get 4 male
d 4 female ſcrews, ſuch as are uſed for ſecuring
h-windows. Let the 4 female ſcrews be let in
the four corners of one of the planks, and cor-
ſponding holes made through the four corners
the other plank for the male ſcrews to paſs
rough, ſo as to allow the two planks to be
rewed tightly together. It will not be amiſs to
e the bearing of the male ſcrews upon the wood
ith iron plates; and if the iron plates went a-
oſs from corner to corner of the wood, it would
a good ſecurity againſt the warping. 2dly, Get
a dozen quires of large ſoft ſpongy paper,
ich as the ſtationers call *bloſſom blotting paper* is
e beſt,) and a few ſheets of ſtrong paſteboard.
ne plants you wiſh to preſerve ſhould be gather-
in a dry day, after the ſun hath exhaled the
w; taking particular care to collect them in
e ſtate wherein their generic and ſpecific cha-
cters are moſt conſpicuous. Carry them home
a tin box 9 inches long, 4½ inches wide, and 1½
ep. Get the box made of the thineſt tinned
n that can be procured; and let the lid open
on hinges. If any thing happens to prevent the
mediate uſe of the ſpecimens you have collected,
ey will be kept freſh two or three days in this
x much better than by putting them in water.
o preſerve them, let them lie upon a table until
ey become limber; and then lay them upon a
ſteboard, as much as poſſible in their natural
rm, but at the ſame time with a particular
ew to their generic and ſpecific characters.
or this purpoſe it will be adviſable to ſeparate
e of the flowers, and to diſplay the generic
aracter. If the ſpecific character depends u-
on the flower or upon the root, a particular diſ-
ay of that will be likewiſe neceſſary. When the
ant is thus diſpoſed upon the paſteboard, cover
with 8 or 10 layers of ſpongy paper, and put it
to the preſs. Exert only a ſmall degree of preſ-
re for the firſt two or three days; then examine
unfold any unnatural plaits, rectify any miſ-
takes, and, after putting freſh paper over it, ſcrew
the preſs harder. In about three days more ſepa-
rate the plant from the paſteboard, if it is ſuffici-
ently firm to allow of a change of place; put it
upon a freſh paſteboard, and, covering it with
freſh bloſſom-paper, let it remain in the preſs a
few days longer. The preſs ſhould ſtand in the
ſun-ſhine, or within the influence of a fire. When
it is perfectly dry, the uſual method is to faſten it
down, with paſte or gum-water, on the right-
hand inner page of a ſheet of large ſtrong writing
paper. It requires ſome dexterity to glue the
plant neatly down, ſo that none of the gum or
paſte may appear to defile the paper. Preſs it
gently again for a day or two, with a half ſheet of
bloſſom paper betwixt the folds of the writing
paper. When it is quite dry write upon the left-
hand inner page of the paper the name of the plant;
the ſpecific character; the place where, and the
time when, it was found; and any other remarks
you may think proper. Upon the back of the ſame
page, near the fold of the paper, write the name
of the plant, and then place it in your cabinet. A
ſmall quantity of finely powdered arſenic, or cor-
roſive ſublimate, is mixed with the paſte or gum-
water, to prevent the devaſtations of inſects; but
the ſeeds of ſtaves-acre finely powdered will an-
ſwer the ſame purpoſe, without being liable to
corrode or to change the colour of the more deli-
cate plants. Some people put the dried plants
into the ſheets of writing paper, without faſtening
them down at all; and others only faſten them by
means of ſmall ſlips of paper, paſted acroſs the
ſtem or branches. Where the ſpecies of any ge-
nus are numerous, and the ſpecimens are ſmall,
ſeveral of them may be put into one ſheet of pa-
per.—2. A more expeditious method is to take the
plants out of the preſs after the firſt or ſecond
day; let them remain upon the paſteboard; cover
them with five or ſix leaves of bloſſom paper, and
iron them with a hot ſmoothing iron until they
are perfectly dry. If the iron is too hot, it will
change the colours; but ſome people, taught by
long practice, will ſucceed very happily. This is
the beſt method to treat the orchis and other ſlimy
mucilaginous plants. 3. Another method is to
take the plants when freſh gathered, and, inſtead
of putting them into the preſs, immediately to faſ-
ten them down to the paper with ſtrong gum wa-
ter: then dip a camel-hair pencil into ſpirit-var-
niſh, and varniſh the whole ſurface of the plant
two or three times over. This method ſucceeds
very well with plants that are readily laid flat,
and it preſerves their colours better than any other.
The ſpirit varniſh is made thus: To a quart of
highly rectified ſpirit of wine put five ounces of
gum ſandarach; two ounces of maſtich in drops;
one ounce of pale gum elemi, and one ounce of
oil of ſpike-lavender. Let it ſtand in a warm place,
and ſhake it frequently to expedite the ſolution of
the gums. The ſpecimens may be diſpoſed ſyſ-
tematically in a large folio book; but a vegetable
cabinet is upon all accounts more eligible. In
Pl. CCLXXVII. there is a ſection of a cabinet, in
the true proportions it ought to be made, for con-
taining a complete collection of Britiſh plants.
By the aſſiſtance of this drawing, and the adjoin-
ing ſcale, a workman will readily make one. The
drawers

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drawers muſt have backs and ſides, but no other front than a ſmall ledge. Each drawer will be 14 inches wide, and 10 inches from the back to the front, after allowing half an inch for the thickneſs of the two ſides, and a quarter of an inch for the thickneſs of the back. The ſides of the drawers, in the part next the front, muſt be ſloped off in a ſerpentine line, ſomething like what the workmen call an *ogee*. The bottoms of the drawers muſt be made to ſlide in grooves cut in the uprights, ſo that no ſpace may be loſt betwixt drawer and drawer. After allowing a quarter of an inch for the thickneſs of the bottom of each drawer, the clear perpendicular ſpace in each muſt be as in the following table:

I. Two tenths of an inch.
II. One inch and two tenths.
III. Four inches and ſix tenths.
IV. Two inches and three tenths.
V. Seven inches and eight tenths.
VI. Two inches and two tenths.
VII. Two tenths of an inch.
VIII. One inch and four tenths.
IX. Two tenths of an inch.
X. Two inches and eight tenths.
XI. One inch and two tenths.
XII. Three inches and five tenths.
XIII. Two inches and four tenths.
XIV. Three inches and eight tenths.
XV. Three inches and four tenths.
XVI. One inch and three tenths.
XVII. Two inches and eight tenths.
XVIII. Six tenths of an inch.
XIX. Ten inches.
XX. One inch and nine tenths.
XXI. Four inches and four tenths.
XXII. Two inches and ſix tenths.
XXIII. One inch and two tenths.
XXIV. Seventeen inches.

This cabinet ſhuts up with two doors in front; and the whole may ſtand upon a baſe, containing a few drawers for the reception of duplicates and papers.

(21.) PLANTS, METHOD OF PRESERVING, IN THEIR ORIGINAL SHAPE AND COLOUR. Waſh a ſufficient quantity of fine ſand, ſo as perfectly to ſeparate it from all other ſubſtances; dry it; paſs it through a ſieve to clear it from any groſs particles which would not riſe in the waſhing: take an earthen veſſel of a proper ſize and form, for every plant and flower which you intend to preſerve; gather your plants and flowers when they are in a ſtate of perfection, and in dry weather, and always with a convenient portion of the ſtalk: heat a little of the dry ſand prepared as above, and lay it in the bottom of the veſſel, ſo as equally to cover it; lay the plant or flower upon it, ſo as that no part of it may touch the ſides of the veſſel: ſift or ſhake in more of the ſame ſand by little upon it, ſo that the leaves may be extended by degrees, and without injury, till the plant or flower is covered about two inches thick: put the veſſel into a ſtove, or hot-houſe, heated by little and little to the 50th degree; let it ſtand there a day or two, or perhaps more, according to the thickneſs and ſucculence of the flower or plant; then gently ſhake the ſand out upon a ſheet of paper, and take out the plant, which you will find in all its beauty, the ſhape as elegant, and the colour as vivid as when it grew. Some flowers require certain little operations to preſerve the adherence of their petals, particularly the tulip; with reſpect to which it is neceſſary, before it is buried in the ſand, to cut the triangular fruit which riſes in the middle of the flower, for the petals will then remain more firmly attached to the ſtalk. A HORTUS SICCUS prepared in this manner would be one of the moſt beautiful and uſeful curioſities imaginable.

(22.) PLANTS, MOTION OF. See HEDYSARUM, N° 2; and MOTION, § 10.

(23.) PLANTS, NUTRITION OF. Various opinions have been entertained by modern chemiſts on this ſubject. M. Haſſenfratz conſiders carbon as the ſubſtance, which chiefly nouriſhes vegetables. M. Ingenhouſz, in his work on this ſubject, endeavours to prove, that, if carbon has any influence, it can only be in the ſtate of carbonic acid, as that acid is abſorbed and decompoſed by vegetables, while the natural ligneous carbon produces no effect on the expanſion of plants. Mr A. Young has endeavoured to demonſtrate this by experiments. Prof. Rafn of Copenhagen, made a ſeries of experiments for 3 years, from which he concludes, that carbon has a decided influence in the nouriſhment of plants; that the carbonic acid produces exactly the ſame effect as charcoal of wood; and that coal aſhes, which both Engliſh and German farmers celebrate ſo much, deſtroy the plants, if the ſoil contains one 8th of this mixture. No ſeed germinates in oil. A ſingle grain of common ſalt in 200 grains of water is ſufficient to retard vegetation, and may even kill the plants, if watered with it. Shavings of horn and charcoal are favourable to vegetation.

(24.) PLANTS, PERCEPTION OF. Dr Bell of Edinburgh and many other ingenious men, believe that plants have a power of perception. In the 2d vol. of the *Manchester Tranſactions*, we find ſome *ſpeculations on the perceptive power of vegetables, by Dr Percival*, who attempts to trace the ſeveral analogies of organization, life, nutrition, ſpontaneity, and ſelf-motion, that plants, like animals, are endued with the powers both of perception and enjoyment. The attempt is ingenious, and is ingeniouſly ſupported, but in our opinion fails to convince. That there is an analogy between animals and vegetables is certain; but we cannot from thence conclude that they either perceive or enjoy. Botaniſts have, it is true, derived from *anatomy* and *phyſiology*, almoſt all the terms employed in the deſcription of plants. But we cannot from thence conclude, that their organization, though it bears an analogy to that of animals, is the ſign of *a living principle*, if to that *principle* we annex the idea of *perception*; yet fully is our author convinced of the truth of it, that he does not think it extravagant to ſuppoſe that, in ſome future period, perceptivity may be diſcovered to extend even beyond the limits aſſigned to vegetable life. Corallines, madrepores, millepores, and ſponges, were formerly conſidered as foſſil bodies: but the experiments of Count Marſigli evinced, that they are endowed with life, and led him to claſs them with the maritime plants. And the obſervations of Ellis, Juſſieu, and Peyſſonel have ſince raiſed them to the rank of animals.

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Anatomy of PLANTS. Plate CCLXXVI.

14.
Leaf

Tulip Root
Fig. 18.

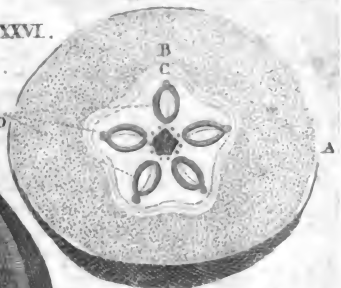


Fig. 19. Pear
cut Transversely

Fig. 22. Pear
cut Longitudinally

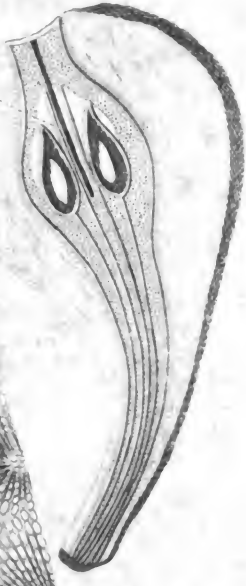


Fig. 21. *is* Fig 20.
magnified

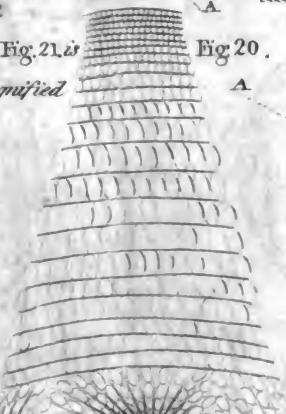
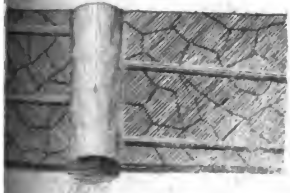
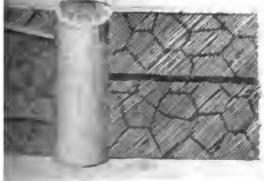
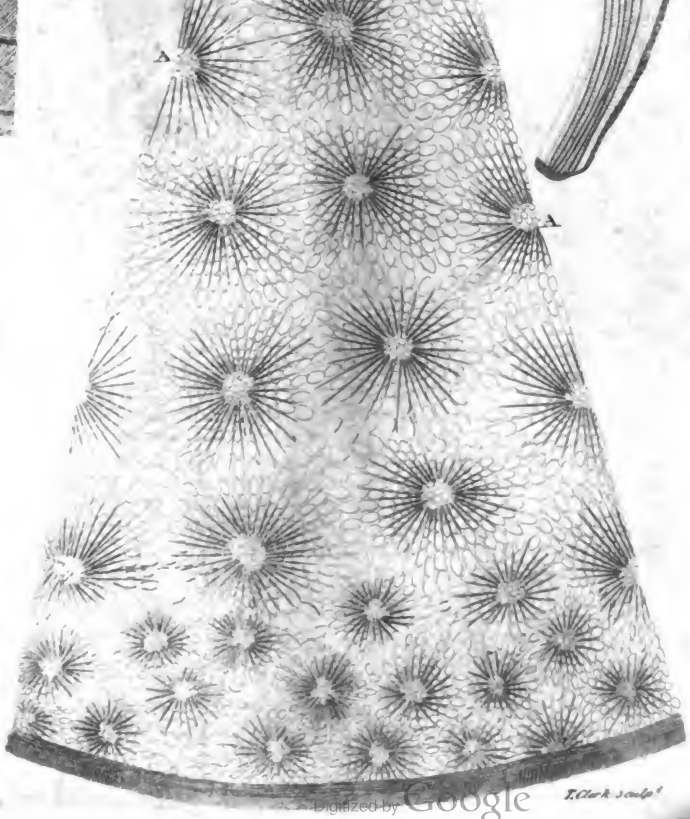


Fig. 20 *cut off* Fig. 19.

Fig. 16.







T. Clark Sculp.

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he detection of error, in long eſtabliſhed opini-
ns concerning one branch of natural knowledge,
ſtifies the ſuſpicion of its exiſtence in others,
hich are nearly allied to it. He then goes on to
aw a compariſon between the inſtincts of ani-
als and thoſe of vegetables: the calf, as ſoon as
comes into the world, applies to the teats of the
w; and the duckling, though hatched under a
n, runs to the water. "Inſtincts analogous to
eſe (ſays our author,) operate with equal energy
the vegetable tribe. A ſeed contains a germ,
plant in miniature, and a radicle, or little root,
ended by nature to ſupply it with nouriſhment.
the ſeed be ſown in an inverted poſition, ſtill each
rt purſues its proper direction. The plumula
ms upward, and the radicle ſtrikes downward
o the ground." But theſe and all the other in-
nious arguments drawn by the Doctor from the
-flower, the DIONÆA MUSCIPULA, &c. how-
r plauſible, are by no means convincing, and
re certainly muſt ever remain a diſtinct and e-
nal barrier between the perceptions of animals
l the motions of vegetables; although even the
at Dr Watſon, Bp. of Landaff, has eſpouſed the
e ſide of the queſtion with Dr Percival. See
TION, § 10.

15.) PLANTS, PERPENDICULARITY OF.—This
curious phenomenon in natural hiſtory, which
firſt obſerved by M. Dodart, and publiſhed
n eſſay on the affectation of perpendicularity
erved in the ſtems or ſtalks of all plants, in the
ts of many, and even in their branches, as
ch as poſſible. Though almoſt all plants riſe
ttle crooked, yet the ſtems ſhoot up perpendi-
arly, and the roots ſink down perpendicularly:
thoſe, which by the declivity of the ſoil come
inclined, or thoſe which are diverted out of
perpendicular by any violent means, again re-
s and ſtraighten themſelves and recover their
endicularity, by making a ſecond and contra-
end or elbow without rectifying the firſt. We
monly look upon this affectation without any
riſe; but the naturaliſt who knows what a
u is, and how it is formed, finds it a ſubject
ſonifhment. Each ſeed we know contains in
little plant, already formed, and needing no-
but to be unfolded; the little plant has its
; and the pulp, which is uſually ſeparated in-
wo lobes, is the foundation of the firſt food it
s by its root when it begins to germinate.
ſeed in the earth therefore be diſpoſed ſo as
the root of the little plant be turned down-
ds, and the ſtem upwards, and even perpendi-
ly upwards, it is eaſy to conceive that the
plant coming to unfold itſelf, its ſtalk and
need only follow the direction they have to
perpendicularly. But we know that the
of plants, whether ſown of themſelves or by
fall in the ground at random; and among
great variety of ſituations with regard to the
of their plant, the perpendicular one up-
ds is but one. In all the reſt, therefore, it is
ſary that the ſtalk rectify itſelf, ſo as to get
of the ground: but what force effects this
ge, which is unqueſtionably a violent action?
ecount for two ſuch different actions, M. Do-
ſuppoſes that the fibres of the ſtalks are of
a nature as to be contracted and ſhortened by the heat of the ſun, and lengthened out by the moiſture of the earth; and, on the contrary, that the fibres of the roots are contracted by the moiſture of the earth, and lengthened by the heat of the ſun. When the plantule therefore is inverted, and the root at the top, the fibres which compoſe one of the branches of the root are not alike expoſed to the moiſture of the earth, the lower part being more expoſed than the upper. The lower muſt of courſe contract the moſt; and this contraction is again promoted by the lengthening of the upper whereon the ſun acts with the greateſt force. This branch of the root muſt therefore recoil towards the earth, and, inſinuating through the pores thereof, muſt get underneath the bulb, &c. By inverting this reaſoning we diſcover how the ſtalk comes to get uppermoſt. We ſuppoſe then that the earth attracts the root to itſelf, and that the ſun contributes to its deſcent; and, on the other hand, that the ſun attracts the ſtem, and the earth contributes to ſend it towards the ſame. With reſpect to the ſtraightening of the ſtalks in the open air, our author imagines that it ariſes from the impreſſion of the ſun and rain. For the upper part of a ſtalk that is bent is more expoſed to the rain, dew, and even the ſun, &c. than the under; and theſe cauſes, in a certain ſtructure of the fibres, both equally tend to ſtraighten the part moſt expoſed by the ſhortening they ſucceſſively occaſion in it; for moiſture ſhortens by ſwelling and heat by diſſipating. What that ſtructure is which gives the fibres ſuch different qualities, or whereon it depends, is a myſtery as yet beyond our depth. M. de la Hire accounts for the perpendicularity of the ſtems or ſtalks of plants by ſuppoſing that the roots of plants draw a coarſer and heavier juice, and the ſtem and branches a finer and more volatile one; but this appears to be one of thoſe conjectural hypotheſes, of which no evidence can be adduced, like the doctrines of æthers, atmoſpheres, &c. (See OPTICS, § 153-156.) M. Aſtruc accounts for the perpendicularity of the ſtems, and their redreſſing themſelves, thus: 1. He thinks the nutritious juice ariſes from the circumference of the plant, and terminates in the pith: And, 2. That fluids, contained in tubes either parallel or oblique to the horizon, gravitate on the lower part of the tubes, and not at all on the upper. Hence it follows, that, in a plant placed either obliquely or parallel to the horizon, the nutritious juice will act more on the lower part of the canals than on the upper; and thus they will inſinuate more into the canals communicating therewith, and be collected more copiouſly therein: thus the parts on the lower ſide will receive more accretion and be more nouriſhed than thoſe on the upper; the extremity of the plant will therefore be obliged to bend upwards. This principle brings the ſeed into its due ſituation at firſt. In a bean planted upſide down, the plume and radicle may be ſeen with the naked eye ſhooting at firſt directly for about an inch; after which they begin to bend, the one downward, and the other upward. The ſame is the caſe in a heap of barley to be made into malt, or in a quantity of acorns laid to ſprout in a moiſt place, &c. Each grain of barley and each acorn has a different ſituation; and yet every ſprout tends directly upward

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ward, and every root downward, and the curvity or bend they make is greater or less as their situation approaches more or less to the direction wherein no curvature at all would be necessary. But two such opposite motions cannot possibly arise without supposing some difference between the two parts: the only one we know of is, that the plume is fed by a juice imported to it by tubes parallel to its sides, whereas the radical imbibes its nourishment at every pore in its surface. When the plume therefore is either parallel or inclined to the horizon, the nutritious juice, feeding the lower parts more than the upper, will determine its extremes to turn upward, for the reasons before given. On the contrary, when the radicle is in the like situation, the nutricious juice penetrating through the upper part more copiously than through the under, there will be a greater accretion of the former than of the latter; and the radicle will therefore be bent downwards, and this mutual curvity of the plume and radicle must continue till such time as their sides are nourished alike, which cannot be till they are perpendicular.

(26.) PLANTS, PERSPIRATION OF, AND QUANTITY OF MOISTURE IMBIBED BY. These curious particulars have been determined with great accuracy by Dr Hales. The method he took to accomplish his purpose was as follows.—In July, the warmest season of the year, he took a large sunflower 3½ feet high, which had been purposely planted in a flower-pot when young. He covered the pot with thin milled lead, leaving only a small hole to preserve a communication with the external air, and another by which he might occasionally supply the plant with water. Into the former he inserted a glass tube nine inches long, and another shorter tube into the hole by which he poured in the water; and the latter was kept close stopped with a cork, except when there was occasion to use it. The holes in the bottom of the pot were also stopped up with corks, and all the crevices shut with cement.—Things being thus prepared, the pot and plant were weighed for 15 several days; after which the plant was cut off close to the leaden plate, and the stump well covered with cement. By weighing, he found that there perspired through the unglazed porous pot two ounces every 12 hours; which being allowed for in the daily weighing of the plant and pot, the greatest perspiration, in a warm day, was found to be one pound 14 ounces; the middle rate of perspiration, one pound four ounces; the perspiration of a dry warm night, without any sensible dew, was about three ounces; but when there was any sensible though small dew, the perspiration was nothing; and when there was a large dew, or some little rain in the night, the plant and pot was increased in weight 2 or 3 ounces. To know what quantity was perspired from a square inch of surface, our author cut off all the leaves of the plant, and laid them in five several parcels, according to their several sizes; and then measured the surface of a leaf of each parcel, by laying over it a large lattice made with threads, in which each of the little squares were $\frac{1}{10}$ of an inch; by numbering of which, he had the surface of the leaves in square inches; which, multiplied by the number of leaves in the corresponding parcels, gave the area of all the leaves. By this method he found the surface of the whole plant above ground to be 5616 square inches, or 39 square feet. He dug up another sun-flower of nearly the same size, which had eight main roots, reaching 15 inches deep and sidewise, from the stem. It had besides a very thick bush of lateral roots from the main roots, extending every way in a hemisphere about 9 inches from the stem and main roots. In order to estimate the length of all the roots, he took one of the main roots with its laterals, and measured and weighed them; and then weighed the other 7 with their laterals; by which means he found the sum of all their lengths to be 1448 feet. Supposing then the periphery of these roots at a medium to be $0'.31$ of an inch, then their surface will be 2276 square inches, or 15·8 square feet; that is, equal to 0·4 of the surface of the plant above ground. From calculations drawn from these observations, it appears, that a square inch of the upper surface of this plant perspires one 16th part of an inch in a day and a night; and that a square inch of the surface under ground imbibes one 67th of an inch in the same time. The quantity perspired by different plants, however, is by no means equal. A vine-leaf perspires only one 191st of an inch in 12 hours; a cabbage perspires one 80th of an inch in the same time; an apple tree one 10ad in 12 hours; and a lemon one 14th in 12 hours.

(27.) PLANTS, ROOTS OF. In examining the roots of plants, the first thing is the skin, which of various colours in different plants. Every root after it has arrived at a certain age, has a double skin. The first is coeval with the other parts, as exists in the seed: but afterwards there is a new sent off from the bark, which forms a second skin, *e.g.* in the root of the dandelion, towards the end of May, the original or outer skin appears shrivelled, and is easily separated from the new one, which is fresher, and adheres more firmly to the bark. Perennial plants are supplied in this manner with a new skin every year; the outer one always falls off in autumn and winter, and a new one is formed from the bark in the succeeding spring. The skin has numerous cells or vessels and is a continuation of the parenchymatous part of the radicle. However, it does not consist entirely of parenchyma; for the microscope shows that there are many tubular ligneous vessels running fed through it. When the skin is removed, the true cortical substance or bark appears, which also a continuation of the parenchymatous part of the radicle, but greatly augmented. The bark is of very different sizes. In most trees it is exceeding thin in proportion to the wood and pith. On the other hand, in carrots, it is almost half of the semidiameter of the root; and, in dandelion, it is nearly twice as thick as the woody part. The bark is composed of two substances, the parenchyma or pulp, which is the green part, and a few woody fibres. The parenchyma is exceedingly porous, and has a great resemblance to a sponge; for it shrivels considerably when dried, and dilates to its former dimensions when infused in water. These pores are not perforations so as to communicate with each other; but consist of distinct little cells or bladders, scarcely

fible without the microſcope. In all roots, theſe cells are conſtantly filled with a thin watery liquor. They are generally of a ſpherical figure; though in ſome roots, as the bugloſs and dandelion, they are oblong. In many roots, as the horſe radiſh, peony, aſparagus, potatoe, &c. the parenchyma is of one uniform ſtructure. But in others it is more diverſified, and puts on the ſhape of rays, running from the centre towards the circumference of the bark. Theſe rays ſometimes run quite through the bark, as in lovage; and ſometimes advance towards the middle of it, as in melilot and moſt of the leguminous and umbelliferous plants. Theſe rays generally ſtand at an equal diſtance from each other in the ſame plant; but the diſtance varies greatly in different plants. Neither are they of equal ſizes: in carrot they are exceedingly ſmall, and ſcarcely diſcernible; in melilot and chervil, they are thicker. They are likewiſe more numerous in ſome plants than in others. Sometimes they are of the ſame thickneſs from one edge of the bark to the other; and ſome grow wider as they approach towards the ſkin. The veſſels with which theſe rays are amply furniſhed, are ſuppoſed to be air-veſſels, becauſe they are always found dry, and not ſo tranſparent as the veſſels which contain the ſap. In all roots there are ligneous veſſels diſperſed in different proportions through the parenchyma of the bark. Theſe ligneous veſſels run longitudinally through the bark in the form of ſmall threads, which are tubular, as is evident from the riſing of the ſap in them when a root is cut tranſverſely. Theſe ligneous ſap-veſſels do not run in direct lines through the bark, but at ſmall diſtances incline towards one another, in ſuch a manner that they appear to the naked eye to be inoſculated; but the microſcope diſcovers them to be only contiguous, and braced together by the parenchyma. Theſe traces or coarctations are very various both in ſize and number in different roots; but in all plants they are moſt numerous towards the inner edge of the bark. Neither are theſe veſſels ſingle tubes; but, like the nerves in animals, are bundles of 20 or 30 ſmall contiguous cylindrical tubes, which uniformly run from the extremity of the root without ſending off any branches or ſuffering any change in their ſize or ſhape. In ſome roots, as parſnep, eſpecially in the ring next the inner extremity of the bark, theſe veſſels contain a kind of lymph, which is ſweeter than the ſap contained in the bladders of the parenchyma. From this circumſtance they have got the name of *lymphatics*. Theſe lymph-ducts ſometimes yield a mucilaginous lymph, as in the comphrey; and ſometimes a white milky glutinous lymph, as in the angelica, ſonchus, burdock, ſcorzonera, dandelion, &c. The lymph-ducts are ſuppoſed to be the veſſels from which the gums and balſams are ſecerned. The lymph of fennel, when expoſed to the air, turns into a clear tranſparent balſam; and that of the ſcorzonera, dandelion, &c. condenſes into a gum. The ſituation of the veſſels is various. In ſome plants they ſtand in a ring or circle at the inner edge of the bark, as in aſparagus; in others, they appear in lines or rays, as in borage; in the parſnep, and ſeveral other plants, they are moſt conſpicuous towards the outer edge of the bark; and in the dandelion, they are diſpoſed in the form of concentric circles. The wood of roots is that part which appears after the bark is taken off, and is firmer and leſs porous than the bark or pith. It conſiſts of two diſtinct ſubſtances, viz. the pulpy or parenchymatous, and the ligneous. The wood is connected to the bark by large portions of the bark inſerted into it. Theſe inſertions are moſtly in the form of rays, tending to the centre of the pith, which are eaſily diſcernible by the eye in a tranſverſe ſection of moſt roots. Theſe inſertions, like the bark, conſiſt of many veſſels, moſtly of a round or oval figure. The ligneous veſſels are generally diſpoſed in collateral rows running longitudinally through the root. Some of theſe contain air, and others ſap. The *air-veſſels* are ſo called, becauſe they contain no liquor. Theſe air-veſſels are diſtinguiſhed by being whiter than the others. The pith is the centrical part of the root. Some roots have no pith, as the ſtramonium, nicotiana, &c.; others have little or none at the extremities of the roots, but have a conſiderable quantity of it near the top. The pith, like every other part of a plant, is derived from the ſeed; but in ſome, it is more immediately derived from the bark: for the inſertions of the bark running in betwixt the rays of the wood, meet in the centre, and conſtitute the pith. Roots, which have no pith in their lower parts, are amply provided with it towards the top, as in columbine, lovage, &c. The bladders of the pith are of different ſizes, and generally of a circular figure. Their poſition is more uniform than in the bark. Their ſides are not mere films, but a compoſition of ſmall fibres or threads; which gives the pith, when viewed with a microſcope, the appearance of a piece of fine gauze or net-work. In a word, the whole ſubſtance of roots is nothing but a congeries of tubes and fibres, adapted for the abſorption of nouriſhment, and of courſe the extenſion and augmentation of their parts. *Fig.* 8. *Pl.* 275. A tranſverſe ſection of the root of wormwood as it appears to the naked eye. *Fig.* 9. A ſection of *fig.* 8. magnified. AA, the ſkin, with its veſſels. BBBB, the bark. The round holes CCC, &c. are the lymph-ducts of the bark: All the other holes are little cells and ſap-veſſels. DDD, parenchymatous inſertions from the bark, with the cells, &c. EEEE, the rays of the wood, in which the holes are the air-veſſels. *N. B.* This root has no pith.

(28.) PLANTS, SEA. See SEA PLANTS.

(29.) PLANTS, SEEDS OF, are of various figures and ſizes. Moſt of them are divided into two lobes; though ſome, as thoſe of the creſs kind, have ſix; and others, as the grains of corn, are entire. But as the eſſential properties of all ſeeds are the ſame, when conſidered with regard to the principles of vegetation, we need only deſcribe one ſeed, viz. the great garden bean. We prefer it to all others, becauſe, after it begins to vegetate, its parts are more conſpicuous than many others, and conſequently better calculated for inveſtigation. It is covered with two coats or membranes. The outer coat is extremely thin, and full of pores; but may be eaſily ſeparated from the inner one (which is much thicker), after the bean has been boiled, or lain a few days in the

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foil. At the thick end of the bean there is a ſmall hole viſible to the naked eye, immediately over the radicle or future root, that it may have a free paſſage into the foil (*fig.* 1. A. *Plate* CCLXXV.) When theſe coats are taken off, the body of the ſeed appears, which is divided into two ſmooth portions or lobes. The ſmoothneſs of the lobes is owing to a thin film or cuticle with which they are covered. At the baſis of the bean is placed the radicle or future root (*fig.* 3. A). The trunk of the radicle, juſt as it enters into the body of the ſeed, divides into two capital branches, one of which is inſerted into each lobe, and ſends off ſmaller ones in all directions through the whole ſubſtance of the lobes (*fig.* 4. AA *Pl.* CCLXXV.) Theſe ramifications become ſo extremely minute towards the edges of the lobes, that they require the fineſt glaſſes to render them viſible. To theſe ramifications Grew and Malpighi have given the name of *feminal root*; becauſe, by means of it, the radicle and plume, before they are expanded, derive their principal nouriſhment. The plume, bud, or germ (*fig.* 3), is incloſed in two ſmall correſponding cavities in each lobe. Its colour and conſiſtence is much the ſame with thoſe of the radicle, of which it is only a continuation, but having a quite contrary direction; for the radicle deſcends into the earth, and divides into a great number of ſmaller branches or filaments; but the plume aſcends into the open air, and unfolds itſelf into all the beautiful variety of ſtem, branches, leaves, flowers, fruit, &c. The plume in corn ſhoots from the ſmaller end of the grain, and among maltſters is named ACROSPIRE. The ſubſtance, or parenchymatous part of the lobes, is not a mere concreted juice, but is curiouſly organized, and conſiſts of a vaſt number of ſmall bladders reſembling thoſe in the pith of trees (*fig.* 4.) Beſides the coats, cuticle, and parenchymatous parts, there is a ſubſtance perfectly diſtinct from theſe, diſtributed in different proportions through the radicle, plume, and lobes. This inner ſubſtance appears very plainly in a tranſverſe ſection of the radicle or plume. Towards the extremity of the radicle, it is one entire trunk; but higher up it divides into three branches; the middle one runs directly up to the plume, and the other two paſs into the lobes on each ſide, and ſpread out into a great variety of ſmall branches through the whole body of the lobes, (*fig.* 4.) This ſubſtance is very properly termed *the feminal root*: for when the ſeed is ſown, the moiſture is firſt abſorbed by the outer coats, which are everywhere furniſhed with ſap and air veſſels; from theſe it is conveyed to the cuticle; from the cuticle it proceeds to the pulpy part of the lobes; when it has got thus far, it is taken up by the mouths of the ſmall branches of the feminal root, and paſſes from one branch into another, till it is all collected into the main trunk, which communicates both with the plume and radicle, the two principle involved organs of the future plant. After this the ſap or vegetable food runs in two oppoſite directions: part of it aſcends into the plume, and promotes the growth and expanſion of that organ; and part of it deſcends into the radicle, for nouriſhing and evolving the root and its various filaments. Thus the plume and radicle continue their progreſs in oppoſite directions till the plant arrives at maturity. Every plant poſſeſſed of two roots, both of which are contained in the ſeed. The plume and radicle, when the ſeed is firſt depoſited in the earth, derive nouriſhment from the ſeminal root; but, afterwards, when the radicle begins to ſhoot out its filaments, and to abſorb ſome moiſture, not, however, in a ſufficient quantity to ſupply the exigencies of the plume, the two lobes, or main body of the ſeed, riſe along with the plume, aſſume the appearance of two leaves, reſembling the lobes of the ſeed in ſize and ſhape, but having no reſemblance to thoſe of the plume, for which reaſon they are named *diſſimilar leaves*. Theſe defend the young plume from the weather, and by abſorbing dew, air, &c. aſſiſt the tender radicle in nouriſhing the plume, with which they have still a connection by the ſeminal root. But when the radicle or 2d root has deſcended deep enough into the earth, and has acquired a ſufficient number of filaments or branches for abſorbing as much aliment as is proper for the growth of the plant, then the ſeminal or diſſimilar leaves, their uſe being entirely ſuperſeded, begin to decay and fall off. *Fig.* 1. A, the foramen or hole in the bean through which the radicle ſhoots into the ſoil. *Fig.* 2. A tranſverſe ſection of the bean; the dots being the branches of the ſeminal root. *Fig.* 3. A, the radicle. B, the plume or bud. *Fig.* 4. A longitudinal ſection of one of the lobes of the bean a little magnified, to ſhow the ſmall bladders of which the pulpy or parenchymatous part is compoſed. *Figs.* 5. 6. A, a tranſverſe ſection of the radicle. B, a tranſverſe ſection of the plume, ſhowing the organs or veſſels of the ſeminal root. *Fig.* 4. A view of the ſeminal root branches upon the lobes. *Fig.* 7. The appearance of the radicle, plume, and ſeminal root, when a little further advanced in growth.

(30.) PLANTS, SEXES OF. The eſtabliſhment of the ſexual ſyſtem in vegetables, and the analogy between vegetable and animal bodies, has ſuggeſted a method of improving plants, as to ſize, &c. by *croſſing the breed*. In the *Phil. Trans.* for 1799, there is an account of ſome very curious experiments on this ſubject made by Thomas Knight, Eſq. For the particulars of theſe experiments we ſhall refer to that work, and here only mention the reſult of one or two of his different ſpecies or varieties of peaſe and beans. By introducing the farina of the largeſt and moſt luxuriant ſpecies of pea into the bloſſoms of the moſt diminutive, and by reverſing this proceſs, he found that the powers of the male and female, and their effects on the offſpring were exactly alike. The vigour of the growth, the ſize of the ſeeds produced, and the ſeaſon of maturity were the ſame, though the one was a very early, and the other a very late variety. He had alſo in one experiment a ſtriking inſtance of the ſame kind of effects of croſſing the breeds; for the ſmall and delicate variety whoſe height rarely exceeds 2 feet, was increaſed to 6 feet, while the height of the large and luxuriant kind was very little diminiſhed. Hence it is evident that by this proceſs a great number of new varieties may be obtained. The ſucceſs of Mr Knight's experiments on the

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as alſo been fully equal to his hopes. The plants which he obtained from his efforts to unite the good qualities of two different kinds of apples, poſſeſs the greateſt health and luxuriance of growth, as well as the beſt properties in other reſpects. See BOTANY, *Index*.

(11.) PLANTS, SLEEP OF. See PHYSIOLOGY, ſect. XIII.

(12.) PLANTS, TRUNK, STALK, OR STEM OF. Whatever is ſaid with regard to the trunks of plants, applies equally to the branches. The trunk, like the root, conſiſts of 3 parts, viz. the bark, wood, and pith. Theſe parts, though ſubſtantially the ſame in the trunk as in the root, are in many caſes very different in their texture and appearance. The ſkin of the bark is compoſed of very minute bladders, interſperſed with longitudinal woody fibres, as in the nettle, thiſtle, and moſt herbs. The outſide of the ſkin is viſibly porous in ſome plants, particularly the cane. The principal body of the bark is compoſed of pulpy parenchyma, and innumerable veſſels much larger than thoſe of the ſkin. The texture of the pulpy part, though the ſame ſubſtance with the parenchyma in roots, yet ſeldom appears in the form of rays running towards the pith: and when theſe rays do appear, they do not extend above half way to the circumference. The veſſels of the bark are very differently ſituated, and deſtined for various purpoſes in different plants. For example, in the bark of the pine, the inmoſt are lymphducts, and exceeding ſmall; the outmoſt are gum or reſiniferous veſſels, deſtined for the ſecretion of turpentine; and are ſo large as to be diſtinctly viſible to the naked eye. The wood is between the bark and pith, and conſiſts of two parts, viz. a parenchymatous and ligneous. In all trees, the parenchymatous part of the wood, though much diverſified as to ſize and conſiſtence, is uniformly diſpoſed in diametrical rays, or inſections running betwixt ſimilar rays of the ligneous part. The true wood is nothing but a congeries of old dried lymph-ducts. Between the bark and the wood a new ring of theſe ducts is formed every year, which gradually loſes its ſoftneſs as the cold ſeaſon approaches, and towards the middle of winter is condenſed into a ſolid body of wood. Theſe annual rings, which are diſtinctly viſible in moſt trees when cut through, ſerve as natural marks to diſtinguiſh their age (ſee n. 10. 11.) The rings of one year are ſometimes larger, ſometimes leſs than thoſe of another, probably owing to the favourableneſs or unfavourableneſs of the ſeaſon. The pith, though of a different texture, is exactly of the ſame ſubſtance with the parenchyma of the bark, and the ſections of the wood. The quantity of pith is various in different plants. Inſtead of being increaſed every year like the wood, it is annually diminiſhed, its veſſels drying up, and aſſuming the appearance and ſtructure of wood; inſomuch that in old trees there is ſcarce ſuch a thing as pith to be diſcerned. A ring of ſap-veſſels are uſually placed at the outer edge of the pith, next the wood. In the pine, fig, and walnut, they are very large. The parenchyma of the pith is compoſed of ſmall cells or bladders, of the ſame kind with thoſe of the bark, only of a larger ſize. The general figure of theſe bladders is circular; though in ſome plants, as the thiſtle and borage, they are angular. Though the pith is originally one connected chain of bladders; yet as the plant grows old they ſhrivel, and open in different directions. In the walnut, after a certain age, it appears in the form of a regular tranſverſe hollow diviſion. In ſome plants it is altogether wanting; in others, as the ſonchus, nettle, &c. there is only a tranſverſe partition of it at every joint. *Fig.* 10. A tranſverſe ſection of a branch of aſh, as it appears to the eye. *Fig.* 11. The ſame ſection magnified. AA, the bark. BBB, an arched ring of ſap-veſſels next the ſkin. CCC, the parenchyma of the bark with its cells, and another arched ring of ſap-veſſels. DD, a circular line of lymph-ducts immediately below the above arched ring. EE, the wood. F, the firſt year's growth. G, the ſecond. H, the third year's growth. III, the true wood. KK, the great air-veſſels. LL, the leſſer ones. MMM, the parenchymatous inſertions of the bark repreſented by the white rays. NO, the pith, with its bladders or cells.

(1.) * *To* PLANT. *v. a.* [*planto*, Lat. *planter*, Fr.] 1. To put into the ground in order to grow; to ſet; to cultivate.—*Plant* not thee a grove of any trees near unto the altar of the Lord. *Deut.* xvi. 21. 2. To procreate; to generate.—

The honour'd gods the chairs of juſtice
Supply with worthy men, *plant* love among ye.
Shak.

It engenders choler, *planteth* anger. *Shak.*

3. To place; to fix.—

The fool hath *planted* in his memory
An army of good words. *Shak.*

I will adviſe you where to *plant* yourſelves.
Shak.

The mind through all her powers
Irradiate, there *plant* eyes. *Milton.*

Turnus had aſſembled all his pow'rs,
His ſtandard *planted* on Laurentum's tow'rs.
Dryden.

4. To ſettle; to eſtabliſh: as to *plant* a colony.

Create, and therein *plant* a generation.
Milton.

—To the *planting* of it in a nation, the ſoil may be mellowed with the blood of the inhabitants; nay, the old extirpated, and the new colonies *planted*. *Decay of Piety*: 5. To fill or adorn with ſomething planted: as, he *planted* the garden or the country. 6. To direct properly: as, to *plant* a cannon.

(2.) * *To* PLANT. *v. n.* To perform the act of planting.—

To build, to *plant*, whatever you intend,
In all let nature never be forgot. *Pope.*

—If you *plant* where ſavages are, do not only entertain them with trifles and jingles, but uſe them juſtly. *Bacon.*

PLANTA, a PLANT. See PLANT. Plants, in the Linnæan ſyſtem, are thus diſtinguiſhed:

1. PLANTA ANDROGYNA, an *androgynous* or *hermaphrodite* plant, which bears both male and female flowers.—The great majority of plants are of this kind.

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2. PLANTA FOEMINEA, a female plant, one which bears female flowers only. Female plants are produced from the ſame ſeed with the male, and are arranged under the claſs of dioecia in the ſexual method.

3. PLANTA MAS, a male plant, which bears only male flowers.

(1.) * PLANTAGE. *n. ſ.* [*plantago*, Lat.] An herb, or herbs in general.—

Truth, tir'd with iteration,
As true as ſteel, as *plantage* to the moon. *Shak.*

(2.) PLANTAGE. See PLANTAGO.

PLANTAGENET, the ſurname of 14 kings of England from Henry II. to Richard III. inclusive. (See ENGLAND, § 23—36.) Antiquarians are much at a loſs to account for the origin of this name; the beſt derivation they can find for it is, that Fulk, the firſt earl of Anjou of that name, being ſtung with remorſe for ſome wicked action, went in pilgrimage to Jeruſalem as a work of atonement; where, being ſoundly ſcourged with broom twigs, which grew plentifully on the ſpot, he ever after took the ſurname of *Plantagenet*, or *broomſtalk*, which was retained by his noble poſterity.

PLANTAGO, PLANTAIN; a genus of the monogynia order, belonging to the tetrandria claſs of plants. To this genus Linnæus has joined the coronopus and pſyllium of Tournefort. Of theſe there are ſeveral diſtinct ſpecies, and ſome varieties; but as they are rarely cultivated in gardens, we ſhall only mention ſuch of them as grow naturally in Britain. Of the plantain there are the following ſorts: The common broad-leaved plantain, called *weybread*; the great hoary plantain, or lambs-tongue; the narrow-leaved plantain, or ribwort: and the following varieties have alſo been found in England, which are accidental; the beſom-plantain and roſe-plantain. The plantains grow naturally in paſtures in moſt parts of England, and are frequently very troubleſome weeds. The common plantain and ribwort plantain are both uſed in medicine, and are ſo well known as to need no deſcription. They are ſaid to be ſlightly aſtringent; and the green leaves are commonly applied to freſh wounds by the common people.

1. PLANTAGO CORONOPUS, *Hartſhorn*, or *buckſhorn plantain*. There are two varieties growing in England, viz. the common buckſhorn, which grows plentifully on heaths everywhere; and the narrow-leaved Welch ſort, which is found upon many of the Welch mountains. The firſt of theſe was formerly cultivated as a ſalad herb in gardens, but has been long baniſhed from thence for its rank diſagreeable flavour; it is ſometimes uſed in medicine.

2. PLANTAGO PSYLLIUM, *ſleawort*, is found growing naturally in England, and is uſed in medicine. It was found in the earth thrown out of the bottom of the canals which were dug for the Chelſea water-works, where it grew in great plenty. The ſeeds muſt have been buried there ſome ages; for no perſon remembered any of the plants growing in that neighbourhood before. The ſeeds of this ſpecies are ſometimes uſed, as they are imported from the ſouth of France.

(1.) * PLANTAIN. *n. ſ.* [*plantain*, Fr. *plantago*, Lat.] 1. An herb.—The toad, being overcharged with the poiſon of the ſpider, as is believed, has recourſe to the *plantain* leaf. *Mor*—The moſt common ſimples are mugwort, *plantain* and horſetail. *Wiſeman.* 2. A tree in the Weſt Indies, which bears an eſculent fruit.—

I long my careleſs limbs to lay
Under the *plantain*'s ſhade. *Waller.*

(2.) PLANTAIN. See PLANTAGO.

(3.) PLANTAIN, LEAST WATER, the Engliſh name of the genus *Limoſella*. LIMOSELLA, in botany, is a genus of the Angioſpermia order, belonging to the Didynamia claſs of plants; and in the natural method ranks under the 21ſt order, *Precie*.

(4.) PLANTAIN RIVER, a river of Jamaica, which runs into the ſea, at the E. coaſt, N. by W. of Point Morant.

(5.) PLANTAIN SHOT. See CANNA, § I. N° 5.

(6.) PLANTAIN, STAR-HEADED WATER. See ALISMA, N° 2.

(7.) PLANTAIN TREE. See MUSA, N° III.

(8.) PLANTAIN, WATER. See ALISMA.

* PLANTAL. *adj.* [from *plant*.] Pertaining to plants. Not uſed.—There's but little ſimilitude betwixt a terreous humidity and *plantal* germinations. *Glanville.*

(1.) * PLANTATION. *n. ſ.* [*plantatio*, from *planto*, Latin.] 1. The act or practice of planting. 2. The place planted.—As ſwine are to gardens and orderly *plantations*, ſo are tumults to parliaments. *King Charles.*—

Some peaſants
Of the ſame ſoil their nurſery prepare,
With that of their *plantation*. *Dryden.*
Let his *plantation* ſtretch from down to down. *Pope.*

—Virgil was ſeated by Calliope in the midſt of a *plantation* of laurel. *Addiſon.* 3. A colony. The principal thing, that hath been the deſtruction of moſt *plantations*, hath been the baſe and lingering drawing of profit in the firſt years; ſpeedy profit is not to be neglected, as far as may ſtand with the good of the *plantation*. *Bacon.*—Towns built are few either of the old, or new *plantations*. *Heylyn.* 4. Introduction; eſtabliſhment.—Epiſcopacy muſt be caſt out of this church, after poſſeſſion here, from the firſt *plantation* of chriſtianity in this iſland. *King Charles.*

(2.) PLANTATION, § 1. *Def.* 3. See COLONY.

(3.) PLANTATION, in the Weſt Indies, denotes a ſpot of ground which a planter, or perſon arrived in a new colony, pitches on to cultivate for his own uſe, or purchaſes for that purpoſe.

* PLANTED. *participle.* [from *plant*.] The word ſeems in *Shakeſpeare* to ſignify, ſettled, well grounded.—

A man in all the world's new faſhion *planted*. *Shak.*

* PLANTER. *n. ſ.* [*planteur*, Fr. from *plant*.] 1. One who ſows, ſets, or cultivates; cultivator.

There ſtood Sabinus, *planter* of the vines. *Dryden.*

The cruel battle mows
The *planters*, with their harveſt immature. *Philips.*

That product only which our paſſions breed
Eludes the *planter*'s miſerable care. *Prior.*

2. One

One who cultivates ground in the Weſt Indian olonies.—A *planter* in the Weſt Indies might uſter up, and lead all his family out againſt the dians, without the abſolute dominion of a mo-rch, deſcending to him from Adam. *Locke.*—

He to Jamaica ſeems tranſported,
Alone, and by no *planter* courted. *Swift.*

One who diſſeminates or introduces.—The oly Apoſtles, the firſt *planters* of chriſtianity. *ſion.*—Had theſe writings differed from the ſer-ons of the firſt *planters* of chriſtianity in hiſtory doctrine, they would have been rejected by ſe churches which they had formed. *Addiſon.*

1.) PLANTERSHIP, *n. ſ.* in a general ſenſe, buſineſs of a planter.

2.) PLANTERSHIP, in the Weſt Indies, denotes management of a ſugar plantation, including only the cultivation of the cane, but the vari-proceſſes for the extraction of the ſugar, to-ber with the making of ſugar ſpirits. See RUM, CHARUM, and SUGAR.

3.) PLANTERSHIP, GENERAL DIRECTIONS SPECTING. As it is the intereſt of every plant-o preſerve his negroes in health and ſtrength; very act of cruelty is not leſs repugnant to the ter's real profit, than it is contrary to the laws humanity: and if a manager conſiders his own and his employer's intereſt, he will treat all roes under his care with due benevolence; good diſcipline is by no means inconſiſtent h humanity: on the contrary, it is evident n experience, that he who feeds his negroes , proportions their labour to their age, ſex, ſtrength, and treats them with kindneſs and d nature, will reap a much larger product, with infinitely more eaſe and ſelf-ſatisfaction, the moſt cruel taſkmaſter, who ſtarves his oes, or chaſtiſes them with undue ſeverity. y planter then, who wiſhes to grow rich with , muſt be a good economiſt; muſt feed his es with the moſt wholeſome food, ſufficient reſerve them in health and vigour. Common ence points out the methods by which a ter may preſerve his people in health and gth. Beſides plenty of wholeſome food, e are other means, equally neceſſary to the gth and longevity of negroes, well worth the ter's attention: ſuch as, to chooſe airy dry tions for their houſes; and to obſerve that be kept clean, in good repair, and perfectly r-tight; for naſtineſs, and the inclemencies eather, generate the moſt malignant diſeaſes. ng thus hinted the duties of a planter to his es, let the next care be of cattle, mules, and s. The firſt care is to provide plenty and ty of food. In crop-time, profuſion of cane-may be had for the labour of carriage; but will be more wholeſome and nutritious if d like hay by the ſun's heat, and ſweated ying them in heaps a few days before they aten. In this ſeaſon of abundance, great of cane-tops (the butt ends turned inwards) d be made in the moſt convenient corner of field, to ſupply the want of paſturage and food: and theſe are very wholeſome if ped into ſmall parts, and mixed ſometimes common ſalt or ſprinkled with melaſſes mix-ith water; but yet the cattle require change of food to preſerve them in ſtrength; ſuch as Guinea corn, and a variety of graſs, which every ſoil produces with a little care in moiſt weather; and indeed this variety is found neceſſary in all climes. But ſince that variety is not to be had during thoſe ſevere droughts to which hot climates are liable, and much leſs in thoſe ſmall iſlands which cannot furniſh large tracts of meadow lands for hay, the only reſource is the fodder of cane-tops or tedded Guinea corn leaves; which are very nutritious, and may be preſerved in perfection for more than a whole year, provided the tops or Guinea corn are well tedded for 3 or 4 hot days, as they lie ſpread in the field; and then, being tied into bundles or ſheaves, they muſt lie in the hot ſun for 3 or 4 days more, when they may be fit to be put up into ricks. The beſt method of making them is in an oblong figure, about 30 feet in length, and 16 or 18 feet wide; 7 feet high at the ſides, and thence ſloping like the roof of a houſe, the ridge of which muſt be thatched very carefully; for the ſides may be ſecured from wet by placing the bundles with the butts upwards towards the ridge, in courſes, and lapping the upper over the lower courſe. The beſt method of forming theſe ricks, is to place the firſt courſe of bundles all over the baſe one way; the ſecond courſe reverſely; and ſo alternately till the rick be finiſhed. When cattle are to be fed with this fodder, it muſt be obſerved to take down the bundles from the top, at the weſt end of the rick, to the bottom; for all theſe ricks muſt ſtand E. and W. lengthwiſe, as well to ſecure them from being overturned by high winds, as for the convenience of preſerving them from wet, which cannot be done when ricks are made round. By this huſbandry, an herd of cattle may be kept in ſtrength, either in ſevere droughts, or in wet ſeaſons when graſs is purgative; and thus the neceſſity or expence of large paſtures may be ſaved. The hay-knife uſed in England for cutting hay, anſwers for cutting ricks of tops. The method of tedding Guinea corn to make a kind of hay, will require a little explanation. When Guinea corn is planted in May, and to be cut down in July, in order to bear ſeed that year, that cutting, tedded properly, will make an excellent hay, which cattle prefer to meadow hay. In like manner, after Guinea corn has done bearing ſeed, the after crop will furniſh a great abundance of that kind of fodder which will keep well in ricks for two or three years. The next care of a planter is to provide a ſhade for his cattle; either by trees where they are fed in the heat of the day, if his ſoil requires not dung; or by building a flat ſhade over the pen where cattle are confined for making it. That ſuch ſhades are indiſpenſably neceſſary, for the health of all animals, eſpecially in hot weather, and in a hot climate, is indiſputable.

(4.) PLANTERSHIP, SOIL AND CULTIVATION, PROPER FOR. In the Britiſh ſugar colonies there is as great a variety of ſoils as in any country of Europe; ſome naturally very rich or fruitful, yielding a luxuriant product with little labour or culture. This fruitful ſoil is of three kinds: a looſe hazel mould mixed with ſand, like that of St Chriſtopher's, and is the beſt in the known world

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world for producing ſugar in great quantity, and of the beſt quality. The brick mould of Jamaica is ſomewhat of the ſame nature, and next in value; and then the various mixtures of mould and gravel, to be found in veins or plats over all the other iſlands. When any of theſe ſoils are exhauſted of their fertility by long and injudicious culture, they may be reſtored by any kind of dung well rotted; for theſe warm ſoils cannot bear hot unrotten dung, without being laid fallow for a conſiderable time after it. Another improvement is by ſea-ſand or ſea-weed; or by digging in the cane-traſh into ſteep lands, and by letting it lie to rot for ſome months. A 3d method is, by plowing and laying it fallow; and the 4th method (the beſt of all), is by folding the fallows by ſheep. But this can be practiſed only where there are extenſive paſtures; nor can the plough be employed where the ſoil abounds with large ſtones. In that caſe, however, the former method of digging in traſh will be nearly as effectual, though more expenſive, by hand-labour or hoe-plowing. The next beſt ſoil for producing good ſugar is a mould upon clay, which if ſhallow requires much culture and good labour, or its produce will be ſmall in quantity, though of a ſtrong grain and bright colour, ſo as to yield moſt profit to the refiner of any ſugar, except that produced from an hazel or gravelly ſoil. All the black mould ſoils upon marle are generally fruitful, and will take any kind of dung; but yield not ſo ſtrong or large grained ſugar. Marle, however, of a white, yellow, or blue colour, or rich mould from waſhes, or aſhes of every kind, are excellent for every ſtrong ſoil, as the chief ingredient in the compoſt of dung: either of them will do alone for ſtiff lands; but the yellow and chocolate marle are the moſt ſoapy, and the richeſt kind of manure (except fine mould) for all ſtiff lands. If theſe are well opened, pulverized by culture, and mixed with hot dung, or any kind of looſe earth or marle, they will produce as plentifully as lighter ſoils: and all kinds of clay ſoils, except that of a white colour, have theſe two advantages above the fineſt gravel ſoils, that they do not ſcorch ſoon by dry weather, and never grow weary of the ſame manure, as moſt other ſoils do. By the art of *carting*, 10 mules, or horſes, and two light tumbrels with broad wheels, and ten able negroes, may, by the common uſe of ſpades, ſhovels, and light mattocks, or grubbling hoes, make more dung than 60 able negroes can do in the preſent methods. If marle lies upon riſing ground, or in hillocks, as it often does, the pit is to be opened at the foot of the declivity; which being dug inwards till the bank is 3 feet high, then it is to be *cavied* thus. Dig an hollow ſpace of 12 or 18 inches deep under the foot of the bank; then dig into each ſide of it another perpendicular cut of the ſame depth, and 18 inches wide from the top of the bank to the bottom: that being finiſhed, make a ſmall trench, a foot or two from the brink of the bank; pour into it water till full; and when that is done, fill it again, till the water ſoaking downward makes the marle ſeparate and fall down all at once. This may be repeated till the pit riſes to 50 feet high; and then many hundreds of cart-loads of marle may be thrown down by four negroes in two hours; from whence it may be carted into cattle-pens or laid out upon lands, as occaſion requires. Five or ſix negroes with ſpades or ſhovels will keep two or three tumbrels employed, according to the diſtance of the cage: and thus as much dung may be made by ten negro men as will dung richly at leaſt 80 acres of land every year, and laid out alſo with the aſſiſtance of cattle-carts: An improvement highly worth every planter's conſideration, were negroes and feeding them are ſo expenſive. In level lands, the ſame operation may be as effectual, provided the mouth of the pit be opened by a gradual deſcent to any depth: but when marle is to be found on the ſides of hills, the operation is ſo laborious for the horſes. But if the ſurface of the marle-pits (as it often happens) be covered with clay or ſtiff ſoil, ſo that the water cannot quickly ſoak from the trench above; in that caſe, piles of hard wood, made like piles, 4 feet long, and 4 inches ſquare, pointed at one end, and ſecured at the other ſquare head by an iron clamp, may be driven by heavy mauls into the trench, as ſo many wedges, which will make the caved part tumble down: but a ſkilful eye muſt watch the laſt operation, or the labourers may be buried or hurt. But clay ſoils that are level, and ſubject to be overflowed, or to retain water in ſtagnated pools, can never be made fruitful by any kind of manure, without being firſt well drained: for water lying upon any ſoil will moſt certainly transform it into a ſtiff unfruitful clay; as appears evidently by the bogs of Ireland, the fens of Lincoln and Cambridgeſhire, and even by the ponds of Barbados ſituated in the deepeſt and lighteſt black mould; for that fine ſoil being waſhed in thoſe ponds, becomes the ſtifſeſt black clay, not fit even for an ingredient in dung, until it has been laid dry, and expoſed to the ſun for a whole year: but when theſe bogs and fens are well drained, they become the moſt fruitful ſoils. Natural clay the celebrated Boerhaave thinks the fatteſt of all ſoils; but then it muſt be opened by culture, marle, or ſandy manures. A mixture of ſand in gut manure is the beſt of all manure for ſtiff and barren clay lands; provided they be well drained, by throwing the whole ſoil into round ridges of 12 feet wide, with furrows of three feet wide between each ridge. And this is done with little more hand labour than that of hoe-plow well in the common way. For if a piece of land be marked in lines at 7½ feet diſtance from each other, and the labourers are ſet in to hoe-plow at the ſecond line, hauling back each clod 12 inches, half the ridge, and near half the furrow, it will be at the ſame time: and thus a piece of land may be round-ridged, and the furrows all made at once, by the common operation of hoe-plowing, provided the digger drives his hoe up to the eye at every ſtroke. Hoe-plowing in clay ſoils that have lain long under water, is indeed hard labour; but it will every year grow the lighter by being well-drained by round ridging: and in the mean while the labour may be rendered much more eaſy by the plough conducted by the lines above deſcribed. As therefore ſandy mould is the beſt manure for ſtiff clay; ſo, by parity of reaſon, confirmed by long experience, ſtiff clay is the beſt

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more for ſandy or chaffy ſoils. This method round-ridging is, by ſeveral years experience, and the moſt eſſential improvement of flat clay-ſoils. But ridges were never propoſed for ht ſoils or ſteep lands; and even in flat ſoils on loam they ſhould be made with great cau-n, becauſe *loam melts away by water*. But re are poachy lands of a white clay, even upon all deſcents, too retentive of water; theſe may tainly be improved much by ridges of 12 feet de, as above deſcribed, without fear of waſhes. e general maxim of not burning cane-traſh hich may be called the *ſtubble of cane-lands*) u-n any kind of ſoil, is a great miſtake; as may evinced by obſerving the contrary practice of beſt huſbandmen in England, where burn-bait-is found an admirable method of fertilizing d, ſtiff, or clayey lands. It muſt indeed be a ſtant practice, not only for the ſake of contri-ng to warm and divide the ſoil, but as the on-ffectual means of deſtroying pernicious inſects, l weeds of various kinds, ſuch as French weed, d peaſe, and wild vines. Deep mould upon y or loam, being ſubject to the grub-worm, l not take any kind of dung, till perfectly rot-, except that of the ſheep-fold; which is the manure for all kinds of light ſoils, and is of others the leaſt expenſive, as not requiring d-labour. But the uſe of the fold is impracti-le in any iſland not abounding with large fa-nas or ſheep-paſtures, as in Jamaica. Thoſe s therefore which are ſubject to the grub, and ſt be fertilized by common dung, which is a per neſt for the mother beetle to depoſite its g, muſt be well impregnated with the brine of ſalted ſalt, after the dung is firſt cut up; two e hogſheads of ſalt will make brine enough for ung-pen of 50 feet ſquare. This cure for the b is a late diſcovery, and has been attended h ſucceſs. But though it proves effectual to roy that pernicious inſect in plant-canes, it not be ſufficient to ſave rattoons, without a r application of ſalt in powder; becauſe the brine muſt be waſhed away by the time rat-n ſpring. The planter who would ſave his toons from the grub ought therefore to cut off heads of his ſtools with ſharp hoes 3 inches w the ſurface of the ſoil, and then ſtrew an dful of ſalt round each ſtool, and cover it up level with fine mould taken from the edges. he ſoils where there is no grub, and the plan-wiſhes to have very good rattoons, let him, as as his canes are cut, draw all the traſh from ſtools into the alternate ſpaces, if planted in manner; or into the furrows, if his land be nd-ridged; and then cut off the head of his ls with ſharp hoes, as above directed. Expe-ce has ſhown the great benefit of the rattoon uts riſing from three inches below the ſurface, ad of ſuperficial ſhoots which come to no-, and only ſtarve the ſtrong ſprouts. Beſides, ſtubs, which are left upon the ſtools after the es are cut, rot the ſtools; which is one reaſon good rattoons are uncommon in ſoils long cul-ted. Yet it is the opinion of ſome, that by -plowing and even dunging rattoons, the pro-e might be as good plantcanes, which would the labour of holing and planting ſo often as planters commonly do. Fallowing is of incre-dible advantage to every ſoil, not only by being divided into the minuteſt parts, but alſo by imbi-bing thoſe vegetative powers with which the air is impregnated by the bountiful hand of Provi-dence, whenever rain falls. What thoſe powers are has been expanded under PLANT, § 10, 15, and experience evinces, that tender vegetables of the earth are envigorated more by the ſmalleſt ſhower of rain, than by all the water which hu-man art can beſtow. Let it therefore be a con-ſtant maxim of the planter, never to plant his ground until the ſoil is well mellowed by fallowing, even though he beſtows upon it a due proportion of dung: for too much will force up rank canes, which never yield good ſugar; and though ſome advantage may be reaped from the rattoons, yet it will not compenſate the loſs by the plants. In ſtony or ſteep ſoils, where the plough cannot be uſed, or where a ſufficient ſtrength of cattle can-not be ſupported for that purpoſe, hand-labour, or hoe-ploughing muſt be ſubſtituted: but even in that caſe, much labour may be ſaved by ſpread-ing the dung according to the Engliſh huſbandry, and digging it into the ſoil. To evince this truth let any planter compute his negroes labour of diſtributing dung by baſkets, and by ſpreading it with dung-forks; and then judge for himſelf by one ſingle experiment which is the moſt profitable. As to weeding, by the uſe of the Dutch hoe, he may diſpatch more work than by any other. The Dutch hoe being faſtened upon the end of a ſtick, is puſhed forward under the roots of the ſmall weeds, in ſuch a manner as to cut them up a little below the ſurface of the ſoil, and will do more execution at one ſhove than can be done by three ſtrokes of the common hoe: but there is yet ano-ther practice of the horſe-hoe plough, whereby all weeds growing in rows between beans and peaſe, are extirpated with incredible eaſe and expedi-tion. It is a very ſimple machine, drawn by one or two horſes, conſiſting of a pair of low wheels turning upon a common axis; from whence two ſquare irons are let down at equal diſtances, and triangular hoes made at the ends, the points of the triangles being placed forward, and ſo fixed as to cut all weeds an inch below the ſurface, in the ſame manner as the Dutch garden hoe above-men-tioned. By this machine a man and a boy, with two horſes or mules, will clear perfectly all the ſpaces of a field of ten acres in two days, and may be of admirable uſe in all looſe and dry ſoils in the ſugar iſlands: for while 2 horſes or mules draw in the ſpace before each other, the wheels paſs on the outſide of each row of canes, without doing the leaſt injury, while the plough-holder at-tends to his buſineſs. In ſtiff ſoils which require draining, neither the horſe-hoe plough nor the Dutch hoe can be proper; or any other inſtrument ſo effectual as the ſpade uſed in the manner above hinted, where the ſtaple is deep. But where the ſtaple of land is ſhallow, care muſt be taken not to dig much below it, according to the univerſal opinion of all the beſt writers, ſupported by the experince of 100 years. Yet ſome good planters are fallen into the contrary practice, and dig up ſtiff clay far below the ſtaple. This, Mr Martin ſays, was done in his own lands, during his abſence

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fence, by injudiciously ploughing below the ſtaple; and ſo injured the ſoil, that all the arts of culture for many years hardly retrieved its former fertility. Indeed, where the ſtaple is ſhallow, upon a fat clay, the turning up a little of it at a time, from the bottom of the cane-holes, and mixing it with rich hot dung, made of marle, or ſandy mould, which may take off its cohesive quality, will in due time, and by long fallow, convert it into good ſoil: but if ſtiff clay be turned up, without any ſuch mixture in large quantities, it will infallibly diſappoint the operator's hopes: for though ſolid clay will moulder, by expoſure, to a ſeeming fine earth, yet it will return to its primitive ſtate very ſoon after being wet, and covered from the external air, if not divided, as above ſuggeſted. After all, the common horſe-hoeing plough drawn by two mules in a line before each other, or the hand-hoe in common uſe, will anſwer the purpoſe very well, where the lands are planted in Mr Tull's method; that is, where the ſpaces are equal to the land planted, in the following manner: Beſides all the advantages of planting the land in alternate double rows with equal ſpaces, the canes, when at full age, may be eaſily ſtripped of their traſh, and the juice thus rendered ſo mature as to yield double the produce, and much better ſugars than unſtripped canes. This method of culture may be recommended for all kinds of ſoil: for as by this practice the rank luxuriant canes will be more matured, ſo the poor ſoils will be rendered more fruitful; and as the roots of the canes which expand into theſe ſpaces will be kept moiſt by being covered with rotten traſh, ſo much longer in the burning ſoils. In thoſe low lands which require draining by furrows, the alternate double rows and ſpaces muſt be made croſs the ridges; by which means thoſe ſpaces, being hoe-ploughed from the centre to the ſides, will be always preſerved in a proper ſtate of roundneſs. By this method of planting, the canes may be ſo well ripened as to yield double the quantity of ſugar of canes planted in the cloſe manner; which ſaves half the labour of cartage, half the time of grinding and boiling, and half the fuel, beſides yielding finer ſugar. Yet, how well ſoever the method of planting in ſingle or double alternate rows has ſucceeded in the looſe and ſtiff ſoils, it is a wrong practice in ſtiff lands that are thrown into round or flat ridges: for theſe being moſt apt to crack, the ſun-beams penetrate ſoon to the cane-roots, ſtop their growth, and have an ill influence upon the ſugar. It is therefore adviſable to plant ſuch lands full, but in large holes, of 4 feet, by 5 feet towards the banks: after the plant-canes are cut, to dig out one, and leave two rows ſtanding, hoe-ploughing the ſpaces after turning all the traſh into furrows till almoſt rotten: for if the traſh is drawn upon the hoe-ploughing ſpaces, they will hardly ever moulder, at leaſt not till the traſh is quite rotten. This is an infallible proof from experience of how little advantage traſh is to the ſoil, unleſs it be in great droughts, to keep out the intenſe ſun-beams: for, in all other reſpects, it prevents that joint operation of the ſun and air in mouldering and fructifying the ſoil, as has been proved by repeated experiments. But in flat ſtiff ſoils that are properly drained by round-ridging, no culture prevents cracking ſo effectually as by plowing into them a quantity of looſe mould, of which that of a chocolate or of a yellow colour is beſt; and it will be ſtill much better, by laying upon the land, in ſmall heaps, or in cane-holes for ſome time, to imbibe the vegetative powers of the air before it is intimately mixed with the ſoil. As to the manner of planting canes, the general practice of 4 feet by 5 to a hole, and two freſh plants, is found by experience to be right in three rows. But the following precautions are neceſſary to be obſerved. Firſt, let all the cane-rows run E. and W. that the trade wind may paſs freely through them. 2dly, Let not any acceſſion of mould be drawn into hills round the young canes, except where water ſtagnates; becauſe the fibres which run horizontally, and near the ſurface, are much broken and ſpoiled by that practice. 3dly, Let the ſugar-canes be cut at their full maturity, which, in a dry looſe ſoil, is generally at the end of 14 or 15 months after being planted; but on cold clay-ſoils, not till 16 or 17 months. 4thly, As the cane-rows run E. and W. in as proper a direction as poſſible for cartage to the ſugar work, ſo canes muſt be cut the contrary way if the planter expects any great produce from his ratoons; for by beginning to cut canes at the part of the field moſt remote from the works, the cattle do not often paſs over the ſame tract, and conſequently the cane-ſtools cannot be injured, more eſpecially if he takes due care to cut the canes very cloſe to their roots; for, by leaving a long ſtub (which muſt periſh) the cane-ſtools are much injured. in round-ridged land, it is proper to cut canes in the ſame direction of the ridges, throwing the tops and traſh into the furrows to make the cartage eaſy, and to preſerve the ridges in their proper form. The expediency of planting the cane-pieces of a plantation in exact lines, ſo that the intervals may interſect at right angles, is obvious, ſince ſuch regularity is not only more beautiful, more ſafe in caſe of accidental fires, and a better diſpoſition of the whole for weeding and planting one third or fourth part of a plantation every year, but alſo much eaſier guarded by a few watchmen: for one of theſe walking in a line from E. to W. and the other from N. to S. look through every avenue, where the moſt ſubtle thief cannot eſcape the watchful eye. And if the intervals ſurrounding the boundary of a regular plantation be made 24 feet wide, the proprietor will receive ample recompenſe for ſo much land by the ſecurity of his canes from fires kindled in the neighbourhood, and by planting all that ſpace in plantain trees, which may at once yield food and ſhade to the watchmen, who thus can have no excuſe for abſence from their proper ſtations. But as fuel grows very ſcarce in moſt of our iſlands, it is alſo expedient to plant a logwood or other fence in all the boundaries of every plantation, which, being cut every year, will furniſh a great ſtore of faggots. Logwood makes the cheapeſt and quickeſt of all fences, and agrees with every ſoil: the cuttings make excellent oven-fuel. Such are the general operations of planterſhip, according to the approved directions of Mr Martin. In

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particular cultivation of the ſugar-canes, the raction of ſugar, and the diſtillation of rum, ſee M, SACCHARUM, and SUGAR.

PLANTIN, Chriſtopher, a celebrated printer, s born near Tours in 1733, and bred to an art ich he carried to the higheſt degree of perfec-n. He went and ſettled at Antwerp; and there fted a printing-office, which was conſidered not y as the chief ornament of the town, but as one the moſt extraordinary edifices in Europe. A number of ancient authors were printed; theſe editions were valued not only for the uty of the characters, but alſo for the correct- of the text, with regard to which Plantin was ery nice, that he procured the moſt learned to be correctors of his preſs. He got im-enſe riches by his profeſſion; which, however, did not hoard up, but ſpent like a gentleman. died in 1598, aged 65; and left a moſt ſumptu- and valuable library to his grandſon Balthaſar.

1.) PLANTING, *part. n. ſ.* in agriculture and dening, is ſetting a tree or plant, taken from proper place, in a new hole or pit: throwing h earth over its root, and filling up the hole he level of the ſurface of the ground. The thing in planting is to prepare the ground be- the trees or plants are taken out of the earth, they may remain out of the ground as ſhort me as poſſible; and the next is, to take up the s or plants, to be tranſplanted. In taking up trees, carefully dig away the earth round the t, ſo as to come at their ſeveral parts to cut m off; for if they are torn out of the ground bout care, the roots will be broken and bruiſed, he great injury of the trees. The next thing o prepare them for planting by pruning the ts and heads. And firſt, as to the roots, all the ll fibres are to be cut off, as near to the place o whence they are produced as may be, except are to be replanted immediately after they are n up. Then prune off all the bruiſed or broken s, all ſuch as are irregular and croſs each o- , and all downright roots, eſpecially in fruit- s: ſhorten the larger roots in proportion to ge, the ſtrength, and nature of the tree; ob- ing that the walnut, mulberry, and ſome other ler-rooted kinds ſhould not be pruned ſo cloſe he more hardy ſorts of fruit and foreſt trees: oung fruit-trees, ſuch as pears, apples, plums, hes, &c. that are one year old from the time eir budding or grafting, the roots may be left about 8 or 9 inches long; but in older trees, muſt be left of a much greater length; but is only to be underſtood of the larger roots; he ſmall ones muſt be moſtly cut quite out, runed very ſhort. The next thing is the prun- f their heads, which muſt be differently per- ed in different trees; and the deſign of the muſt alſo be conſidered. Thus, if they are ned for walls or eſpaliers, it is beſt to plant with the greateſt part of their heads, which ld remain on till they begin to ſhoot in the g, when they muſt be cut down to 5 or 6 , taking care not to diſturb the roots. But if rees are deſigned for ſtandards, prune off all ſmall branches cloſe to the place where they produced, alſo the irregular ones which croſs other; and after having diſplaced theſe bran-ches, cut off all ſuch parts of branches, as have by any accident been broken or wounded; but by no means cut off the main leading ſhoots which are neceſſary to attract the ſap from the root, and thereby promote the growth of the tree. Having thus prepared the trees for planting, proceed to place them in the earth: but firſt, if the trees have been long out of the ground, ſo that the fibres of the roots are dried, place them 8 or 10 hours in water, before they are planted, with their heads erect, and the roots only immerſed therein; which will ſwell the dried veſſels of the roots, and prepare them to imbibe nouriſhment from the earth. In planting them, great regard ſhould be had to the nature of the ſoil: for if that be cold and moiſt, the trees ſhould be planted very ſhallow; and if it be a hard rock or gravel, it will be better to raiſe a hill of earth where each tree is to be planted than to dig into the rock or gravel, and fill it up with earth, as is too often practiſed, by which means the trees are planted as it were in a tub, and have but little room to extend their roots. The next thing to be obſerved is, to place the trees in the hole in ſuch a manner that the roots may be about the ſame depth in the ground as before they were taken up; then break the earth fine with a ſpade, and ſcatter it into the hole, ſo that it may fall in between every root, that there may be no hollowneſs in the earth: then having filled up the hole gently, tread down the earth with your feet, but do not make it too hard; which is a great fault, eſpecially if the ground be ſtrong or wet. Having thus planted the trees, they ſhould be faſtened to ſtakes driven into the ground, to prevent their being diſplaced by the wind, and ſome mulch laid upon the ſurface of the ground about their roots; as to ſuch as are planted againſt walls, their roots ſhould be placed about five or ſix inches from the wall, to which their heads ſhould be nailed to prevent their being blown up by the wind. The ſeaſons for planting are various, according to the different ſorts of trees, or the ſoil in which they are planted. For the trees whoſe leaves fall off in winter, the beſt time is the beginning of October, provided the ſoil be dry; but if it be a very wet ſoil, it is better to defer it till the end of Feb. or beginning of March: and for many kinds of evergreens, the beginning of April is by far the beſt ſeaſon; though they may be ſafely removed at midſummer, provided they are not to be carried very far; but ſhould always make choice of a cloudy wet ſeaſon. In the 2d vol. of the Bath Society's Papers, a letter on planting waſte grounds relates, that, "about 30 (now 40) years ago, the W. part of it abounded with ſand, ſo very light that it was blown away with the wind; that Mr Buxton of Shadwell Lodge, near Thetford, mixed fine white and yellow marle with this light ſoil, and planted Scots and ſpruce firs in it which ſoon corrected the looſeneſs of the ſoil; ſo that it was quickly covered not only with graſs and herbs, but with vaſt plantations of firs, oaks, and foreſt trees. The benefit of plantations, whether of ſhrubs, copſe, or trees, is not confined to the immediate advantage, or even the future value of the wood. By annually ſhedding a great number of leaves, which the winds diſperſe, and the rains waſh into the ſoil, it is conſiderably improved;

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and whenever ſuch copſes have been ſtubbed up, the ground (however unfruitful before planting) has thereby been ſo enriched as to bear excellent crops for many years, without the additional help of manure. How much land-owners are intereſted in planting waſte or barren ſpots I need not mention; and nothing but a degree of indolence or ignorance unpardonable in this enlightened age could induce them to neglect it. Nature has furniſhed us with plants, trees, and ſhrubs, adapted to almoſt every ſoil and ſituation; and as the laws of vegetation are now much better underſtood than formerly, it is a reproach to thoſe whoſe practice does not keep pace with their knowledge in making the beſt uſe of her bounty. Let no man repine and ſay *the land is barren*; for thoſe ſpots which appear to be ſo, owe that appearance to human negligence. Induſtry and art might ſoon render an 8th part of this kingdom nearly as valuable as all the reſt, which now remains in a ſtate unprofitable to the owners, and diſgraceful to the community."

(2.) PLANTING, REVERSE, a method of planting in which the natural poſition of the plant or ſhoot is inverted; the branches being ſet into the earth, and the root reared into the air. Dr Agricola and Dr Bradley mention this monſtrous method of planting, and that it ſucceeded very well in moſt or all ſorts of fruit-trees, timber-trees, &c. Mr Fairchild of Hoxton has practiſed the ſame, and gives the following directions for performing it: "Make choice of a young tree of one ſhoot, of alder, elm, willow, or any other tree that eaſily takes root by laying; bend the ſhoot gently down into the earth, and ſo let it remain until it has taken root. Then dig about the firſt root, and raiſe it gently out of the ground, till the ſtem be nearly upright, and ſtake it up. Then prune the roots, now erected in the air, from the bruiſes and wounds they received in being dug up; and anoint the pruned parts with a compoſition of 2 oz. of turpentine, 4 oz. of tallow, and 4 oz. of bees wax, melted together, and applied pretty warm. Afterwards prune off all the buds or ſhoots that are upon the ſtem, and dreſs the wounds with the ſame compoſition, to prevent any collateral ſhootings, that might ſpoil the beauty of the ſtem."

PLANT-LICE, or PUCERONS. See APHIS.

PLANTULE, *n. ſ.* A ſmall plant; a very young plant, or a plant in embryo.

PLANUDES, Maximus, a Greek monk of Conſtantinople, towards the end of the 14th century, who publiſhed a collection of epigrams entitled *Anthologia*; a Greek tranſlation of Ovid's Metamorphoſes; a Life of Æſop, which is rather a romance than a hiſtory; and ſome other works. He ſuffered ſome perſecution on account of his attachment to the Latin church.

PLAQUEMINES, a country of the United States, in Louiſiana, about 40 miles from the Sea. It is low and ſwampy, moſtly covered with reeds. It was overflowed in 1764, and much damaged.

PLARDWICK, a ſmall town of England, in Staffordſhire, E. of Forton.

PLASCHKEN, a town of Pruſſian Lithuania, 9 miles W. of Tilſit.

PLASENCIA, 2 towns of Spain. See PLACENTIA, N° 4 and 5. Mr Cruttwell adopts this ſingular ſpelling, as he does many others, quite different from other geographers.

* PLASH. *n. ſ.* [*plaſche*, Dutch; *plats*, Iriſh.] 1. A ſmall lake of water or puddle.—

He leaves
A ſhallow *plaſh* to plunge him in the deep, Milt.

—Many *plaſhes*, that they had repaired to, ver dry. *Bacon.*—I underſtand the aquatile or wat frog, whereof in ditches and ſtanding *plaſhes* w behold millions. *Brown.*—

With filth the miſcreant lies bewray'd,
Fall'n in the *plaſh* his wickedneſs had laid. Pope.

2. [from the verb *To plaſh.*] Branch partly cu off and bound to other branches.—In the *plaſhing* your quick, avoid laying of it too low and too thick, which makes the ſap run all into the ſhoots, and leaves the *plaſhes* without nouriſhment. Mort.

* *To* PLASH. *v. a.* [*pleſſer*, Fr.] To interweave branches.—Plant and *plaſh* quickſets. Evelyn.

PLASHING OF HEDGES, is an operation thought by ſome perſons to promote the growth and continuance of old hedges; but whether the fact be ſo or not will admit of ſome diſpute. See HEDGES, § 3—12. It is thus performed: The old ſtubs muſt be cut off, &c. within two or three inches of the ground; and the beſt and ſtraighteſt of the middle-ſized ſhoots muſt be left to lay down. Some of the ſtrongeſt of theſe muſt alſo be left to anſwer the purpoſe of ſtakes. Theſe are to be cut off to the height at which the hedge is intended to be left; and they are to ſtand at ten feet diſtance one from another: when there are not proper ſhoots for theſe at the due diſtances, thoſe places muſt be ſupplied with common ſtakes of dead wood. The hedge is to be firſt trimmed, by cutting away all but thoſe ſhoots which are intended to be uſed either as ſtakes, or the other wood of the plaſhing: the ditch is to be cleaned out with the ſpade; and it muſt be now dug as at firſt, with ſloping ſides each way; and where there is any cavity on the bank on which the hedge grows, or the earth has been waſhed away from the roots of the ſhrubs, it is to be made good by facing it, as they expreſs it, with the mould dug from the upper part of the ditch: all the reſt of the earth dug out of the ditch is to be laid upon the top of the bank: and the owner ſhould take carefully into it that this be done; for the workmen are apt to throw as much as they can upon the face of the bank; which, being thus overloaded, is ſoon waſhed off into the ditch again, and a very great part of the work undone; whereas what is laid on the top of the bank always remains there, and makes a good fence of an indifferent hedge. In the plaſhing the quick, two extremes are to be avoided; theſe are, the laying too low, and the laying it too thick. The laſt makes the ſap run all into the ſhoots, and leaves the plaſhes without ſufficient nouriſhment; which, with the thickneſs of the hedge, finally kills them. The other extreme of laying them too high, is equally to be avoided; for this carries up all the nouriſhment into the plaſhes, and ſo makes the ſhoots ſmall and weak at the bottom, and conſequently the hedge thin. This is a common error in the north of England. The beſt hedges made

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where in England are thoſe in Hertfordſhire; they are plaſhed in a middle way between the extremes, and the cattle are thus prevented h from cropping the young ſhoots, and from ng through; and a new and vigorous hedge ſoon formed. When the ſhoot is bent down t is intended to be plaſhed, it muſt be cut half y through with the bill: the cut muſt be given ing, ſomewhat downwards, and then it is to wound about the ſtakes, and after this its ſuperfluous branches are to be cut off as they ſtand at the ſides of the hedge. If for the firſt year two, the field where a new hedge is made can ploughed, it will thrive the better for it; but he ſtubs are very old, it is beſt to cut them te down, and to ſecure them with good dead ges on both ſides, till the ſhoots are grown up n them ſtrong enough to plaſh: and wherever d ſpaces are ſeen, new ſets are to be planted fill them up. A new hedge raiſed from ſets in common way, generally requires plaſhing in ut 8 or 9 years after.

PLASHY. *adj.* [from *plaſh.*] Watery; filled h puddles.—

Near ſtood a mill in low and *plaſhy* ground. *Betterton.*

PLASM. *n. ſ.* [πλασμα.] A mould; a ma; in which any thing is caſt or formed.—The lls ſerved as *plaſms* or moulds to this ſand. *Woodward.*

PLASSAC, a town of France, in the dep. of Lower Charente; 8 miles S. of Mirabeau.

PLASSENDAL, a fortreſs of the French republic, in the department of the Lys, and late v. of Auſtrian Flanders; ſeated on the canal ween Bruges and Oſtend, 3 miles E. of Oſtend.

PLASSEY, a town, plain, and grove near the of Muxadab in India, famous for a battle ght between the Britiſh under Lord Clive and native Hindoos under the Nabob Surajah wlah, it 1757. The Britiſh army conſiſted of t 1200 men, of whom the Europeans did not ed 900; while that of the Nabob conſiſted of 00 foot, and 18,000 horſe. Notwithſtanding great diſproportion, however, Lord Clive effually routed the Nabob and his forces, with loſs of 3 Europeans and 26 Seapoys killed, 5 Europeans and 40 Seapoys wounded. The bob's loſs was eſtimated at about 200 men, beſides oxen and elephants. See CLIVE, N° 2. The n of Plaſſey lies 25 miles S. of Moorſhedabad, 70 from Calcutta.

1.) * PLASTER. *n. ſ.* [*plaſtre*, Fr. from πλαζω.] Subſtance made of water and ſome abſorbent ter, ſuch as chalk or lime well pulveriſed, with ich walls are overlaid or figures caſt.—In the ie hour came forth fingers of a man's hand, and te upon the *plaſter* of the wall. *Dan.* v. 5.—

The floors of *plaſter*, and the walls of dung. *Pope.*

flaps are hung up ſo high, to cover the naked ſter. *Watts on the Mind.* 2. [*Emplaſtrum*, Lat. Engliſh, formerly *emplaſter.*] A glutinous or ſcive ſalve.—Seeing the ſore is whole, why re- we the *plaſter*? *Hooker.*—

You rub the ſore,
When you ſhould bring the *plaſter*. *Shak.*

It not only moves the needle in powder, but likewiſe, if incorporated with *plaſters*, as we have made trial. *Brown.*—*Plaſters*, that have any effect, muſt be by diſperſing or repelling the humours. *Temple's Miſc.*

(2.) PLASTER, or EMPLASTER, in pharmacy, an external application of a harder conſiſtence than an ointment; to be ſpread, according to the different circumſtances of the wound, place, or patient, either upon linen or leather. See PHARMACY, *Index.*

(3.) PLASTER, or PLAISTER, in building, a compoſition, of lime, ſometimes with ſand, &c. to parget, or cover the nudities of a building. See PARGETING and STUCCO.

(4.) PLASTER OF PARIS, a preparation of ſeveral ſpecies of gypſum dug near Mount Maitre, a village near Paris; whence the name. See ALABASTER, CHEMISTRY, *Index*, GYPSUM, MINERALOGY, &c. The beſt ſort is hard, white, ſhining, and marbly; known by the name of *plaſter ſtone*, or *parget of Mount Maitre.* It neither gives fire with ſteel, nor ferments with aquafortis; but readily calcines into a fine plaſter, the uſe of which in building and caſting ſtatues is well known. According to Bergman, it contains 32 parts calcareous earth, 46 of vitriolic acid, and 22 water.

(5.) PLASTER OF PARIS, EXPERIMENTS ON. Two or three ſpoonfuls of burnt alabaſter, mixed up thin with water, in a ſhort time coagulate, at the bottom of a veſſel full of water, into a hard lump, notwithſtanding the water that ſurrounded it. Artificers obſerve, that the coagulating property of burnt alabaſter will be very much impaired or loſt, if the powder be kept too long, eſpecially in the open air, before it is uſed; and when it hath been once tempered with water, and ſuffered to grow hard, they cannot, by any burning or powdering of it again, make it ſerviceable for their purpoſe as before. This matter, when wrought into veſſels, &c. is ſtill of ſo looſe and ſpongy a texture, that the air has eaſy paſſage through it. Mr Boyle gives an account, among his experiments with the air-pump, of his preparing a tube of this plaſter, cloſed at one end and open at the other; and on applying the open end to the cement, as is uſually done with the receivers, it was found utterly impoſſible to exhauſt all the air out of it; for freſh air from without preſſed in as faſt as the other, or internal air, was exhauſted, though the ſides of the tube were of a conſiderable thickneſs. A tube of iron was then put on the engine; ſo that being filled with water, the tube of plaſter of Paris was covered with it; and on uſing the pump, it was immediately ſeen, that the water paſſed through into it as eaſily as the air had done, when that was the ambient fluid. After this, trying it with Venice turpentine inſtead of water, it ſucceeded; and the tube could be perfectly exhauſted, and would remain in that ſtate ſeveral hours. After this, on pouring ſome hot oil upon the turpentine, the caſe was altered; for the turpentine melting with this, that became a thinner fluid, and in this ſtate capable of paſſing like water into the pores of the plaſter. On taking away the tube, the turpentine, which had pervaded and filled its pores, rendered it tranſparent, in the manner that water gives tranſparency to that ſingular ſtone called OCULUS

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MUNDI. In this manner, the weight of air, under proper management, will be capable of making ſeveral ſorts of glues penetrate plaſter of Paris; and not only this, but baked earth, wood, and all other bodies, porous enough to admit water.

(6.) PLASTER OF PARIS, METHOD OF TAKING A FACE IN. The method of repreſenting a face truly in plaſter of Paris is this: The perſon, whoſe figure is deſigned, is laid on his back, with any convenient thing to keep off the hair. Into each noſtril is conveyed a conical piece of ſtiff paper, open at both ends, to allow of reſpiration. Theſe tubes being anointed with oil, are ſupported by the hand of an aſſiſtant; then the face is lightly oiled over, and the eyes being kept ſhut, alabaſter, freſh calcined, and tempered to a thinniſh conſiſtence with water, is by ſpoonfuls nimbly thrown all over the face, till it lies near the thickneſs of an inch. This matter grows ſenſibly hot, and in about a quarter of an hour hardens into a kind of ſtony concretion; which being gently taken off, repreſents, on its concave ſurface, the minuteſt part of the original face. In this a head of good clay may be moulded, and therein the eyes are to be opened, and other neceſſary amendments made. This ſecond face being anointed with oil, a ſecond mould of calcined alabaſter is made, conſiſting of two parts joined lengthwiſe along the ridge of the noſe; and herein may be caſt, with the ſame matter, a face extremely like the original.

(7.) PLASTER OF PARIS, USE OF, AS A MANURE. Plaſter of Paris is uſed as a manure in Pennſylvania, as we find by a letter from a gentleman in that country, inſerted in the Bath Society Papers, vol. 5; of which the following is an extract: "The beſt kind is imported from hills in the vicinity of Paris; it is brought down the Seine, and exported from Havre de Grace. There are large beds of it in the Bay of Fundy, ſome nearly as good as that from France. The lumps compoſed of flat ſhining ſpecula are preferred to thoſe formed of round particles like ſand: the method of finding out the quality is to pulverize ſome, and put it dry into an iron pot over the fire, when that which is good will ſoon boil, and great quantities of the fixed air eſcape by ebullition. It is pulverized by firſt putting it in a ſtamping-mill. The finer its pulverization the better, as it will thereby be more generally diffuſed. It is beſt to ſow it in a wet day. The proper quantity for graſs is ſix buſhels per acre. No art is required in ſowing it but making the diſtribution as equal as poſſible. It operates altogether as a top manure, and therefore ſhould not be put on in the ſpring, until the principal froſts are over and vegetation hath begun. The general time for ſowing with us is in April, May, June, July, Auguſt, and September. Its effects generally appear in 10 or 15 days; after which the growth of the graſs will be ſo great as to produce a large burden at the end of ſix weeks. It muſt be ſown on dry land, not ſubject to be overflown. I have ſown it on ſand, loam, and clay, and it is difficult to ſay on which it has beſt anſwered. It has been uſed as a manure in this ſtate for upwards of 12 years. In all experiments with clover, mix about one 3d timothy graſs ſeed; it very much facilitates the curing of clover, and when cured is a ſuperior fodder. The plaſter operates equally well on the other graſſes. On Indian corn its operation is great; we uſe it at the rate of a table ſpoonful for a hill, put immediately after dreſſing. From ſome accurate experiments made and reported to our Agricultural Society, it appears that 9 buſhels of additional corn per acre were produced by this method of uſing plaſter."

* *To* PLASTER. *v. a.* [*plaſtrer*, French, from the noun.] 1. To overlay as with plaſter.—

Boils and plagues
Plaſter you o'er. Shak.

The harlot's cheek beautied with *plaſtering* art. Shak.

—A heart ſettled upon a thought of underſtanding is as a fair *plaſtering* on the wall. Eccluſ. xx. 17.—With cement of flour, whites of eggs and ſtone powdered, piſcina mirabilis is ſaid to have walls *plaſtered*. *Bacon*.—

Pluſter the chinky hives with clay. Dryden.

—The brain receives not much more impreſſions, than if you wrote with your finger on a *plaſter'd* wall. *Watts*. 2. To cover with a viſcous ſalve or medicated plaſter.

* PLASTERER. *n. ſ.* [*plaſtrier*, Fr. from *plaſter*.] 1. One whoſe trade is to overlay walls with plaſter.—

Thy father was a *plaſterer*. Shak.

2. One who forms figures in plaſter.—The *plaſterer* makes his figures by addition, and the carver by ſubtraction. *Wotton*.

PLASTERING, *part. n. ſ.* See PARGETING.

(1.) * PLASTICK. *adj.* [πλαστικος.] Having the power to give form.—

Benign Creator! let thy *plaſtick* hand
Diſpoſe its own effect. Prior.

—There is not any thing ſtrange in the production of the formed metals, nor other plaſtic virtue concerned in ſhaping them into ſuch figures, than merely the configuration of the particles. *Woodward*.

(2.) PLASTICK denotes a thing endowed with a formative power, or a faculty of forming or faſhioning a maſs of matter after the likeneſs of a living being.

(3.) PLASTICK ART, the art of repreſenting all ſorts of figures by the means of moulds. This term is derived from the Greek, πλασσω, the art of forming, modelling, or caſting in a mould. A mould in general is a body that is made hollow for that purpoſe. The artiſt makes uſe of them to form figures in bronze, lead, gold, ſilver, or any other metal or fuſible ſubſtance. The mould is made of clay, ſtucco, or other compoſition, and is hollowed into the form of the figure that is to be produced; they then apply the tube, which is a ſort of funnel, through which the metal is poured that is to form the figures, and this is called *running the metal into the mould*. It is thus, after much practice and attention, that the artiſt forms, 1. Equeſtrian and pedeſtrian figures of every kind; 2. Groups; 3. Pedeſtals; 4. Baſſo reliefs; 5. Medallions; 6. Cannons, mortars, and other pieces of artillery; 7. Ornaments of architecture, as capitals, baſes, &c.; 8. Various ſorts of

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furniture, as luſtres, branches, in every kind metal; and in the ſame manner figures are caſt ſtucco, plaſter, or any other fuſible matter. See PLASTER, § 6. Wax being a ſubſtance that very eaſily put in fuſion, plaſtics make much of it. There are impreſſions which are high-raiſing in coloured wax, of medallions, baſſo and alto relievos, and of detached figures; which, however, are ſomewhat brittle. But this matter, we think, has been carried too far: they have not only formed moulds to repreſent the likeneſs of the buſt of a living perſon, by applying the wax to the face itſelf, and afterwards caſting melted wax into the mould; but they have alſo painted that waxen buſt with the natural colours of the face, and have then applied glaſs eyes and natural hair; to which they have joined a ſtuffed body and limbs, with hands of wax; and have, laſtly, dreſſed their figure in a real habit. But if this cloſe imitation of nature in painting and ſtatuary, upon canvas, and in ſtone or metal, has been admired in all ages, we cannot ſee why an equally cloſe imitation in wax ſhould not be equally the object of admiration. There is another invention no leſs ingenious and pleaſing, which is that wherein M. Lippart, antiquary and artiſt at Dreſden has ſo much excelled. He has found the means of reſembling, by indefatigable labour, and at expence, and infinite taſte, that immenſe number of ſtones, engraved and in camaieu, which are to be ſeen in the moſt celebrated cabinets. (See PASTES, § 11.) He has made choice of thoſe that are the moſt beautiful; and, with a paſte of his own invention, he takes from theſe ſtones an impreſſion that is ſurpriſingly accurate, and which afterwards becomes as marble: theſe impreſſions he calls *paſti*. He then gives them a proper colour, and incloſes each with a gold rim; and, by ranging them in a judicious order, forms of them an admirable ſyſtem. They are fixed on paſteboards, which form ſo many drawers, and are then incloſed in caſes, which repreſent folio volumes, and have titles written on their backs; ſo that theſe fictitious books may conveniently occupy a place in a library. Nothing can be more ingenious than this invention; and, by means of it, perſons of moderate fortune are enabled to make a complete collection of all that antiquity has left that is excellent of this kind; and the copies are very little inferior to the originals. There is alſo another method of taking the impreſſions of camaieus, medals, and coins, which is as follows: They waſh or properly clean the piece whoſe impreſſion is to be taken, and ſurround it with a border of wax. They then diſſolve iſinglas in water, and make a decoction of it, mixing with it ſome vermilion, to give it an agreeable red colour. They pour this paſte, when hot, on the ſtone or medal, to the thickneſs of about the tenth part of an inch; then leave it expoſed to the ſun, in a place free from duſt. After a few days this paſte becomes hard, and offers to the eye the moſt admirable and faithful repreſentation of the medal that it is poſſible to conceive: they are then carefully placed in drawers; and thouſands of theſe impreſſions which comprehend many ages, may be included in a ſmall compaſs. The proficients in plaſtics have likewiſe invented the art of caſting in a mould papier maché or diſſolved paper, and forming it into figures, in imitation of ſculpture, of ornaments and decorations for ceilings, furniture, &c. and which they afterwards paint or gild. There are, however, ſome inconveniencies attending this art; as, for example, the imperfections in the moulds, which render the contours of the figures inelegant, and give them a heavy air: theſe ornaments, moreover, are not ſo durable as thoſe of bronze or wood, ſeeing that in a few years they are preyed on by worms. The figures that are given to porcelain, Delft ware, &c. belong alſo to plaſtics; for they are formed by moulds, as well as by the art of the ſculptor and turner; and by all theſe arts united are made vaſes of every kind, figures, groups, and other deſigns, either for uſe or ornament. See CASTING, DELFT, § 3, FOUNDERY, GLAZING, PAPIER MACHE', PORCELAIN, POTTERY, &c.

(4.) PLASTIC NATURE, a certain power by which, as an inſtrument, many philoſophers, both ancient and modern, have ſuppoſed the great motions in the corporeal world, and the various proceſſes of generation and corruption, to be perpetually carried on. Among the philoſophers of Greece, ſuch a power was almoſt univerſally admitted. It ſeems, indeed, to have been rejected only by the followers of Democritus and Epicurus, who talk as if they had thought gravity eſſential to matter, and the *fortuitous* motion of atoms, which they held to have been from eternity, the ſource not only of all the *regular* motions in the univerſe, but alſo of the *organization* of all corporeal ſyſtems, and even of *ſenſation* and *intellection*, in brutes and in men. It is evident, that thoſe men, whatever they might profeſs, were in reality atheiſts; and Democritus avowed his atheiſm. The greater part of the philoſophers who held the exiſtence of a plaſtic nature, conſidered it not as an *agent* in the ſtrict ſenſe of the word, but merely as an inſtrument in the hand of the Deity; though even among them there were ſome who held no ſuperior power, and were of courſe as groſs atheiſts, as Democritus himſelf. Such was STRATO of Lampſacus, who was originally of the peripatetic ſchool, over which he preſided many years, with great reputation. He was the firſt and chief aſſertor of what has been termed *Hylozoic atheiſm*; a ſyſtem which admits of no power ſuperior to a certain *natural* or *plaſtic life*, *eſſential*, *ingenerable*, and *incorruptible* inherent in matter, but without ſenſe and conſciouſneſs. That ſuch was his doctrine we learn from Cicero. (*De Nat. Deor.* l. i. c. 13.) Cicero adds, however that, Strato, in admitting this plaſtic principle, differed widely from Democritus. That the rough and ſmooth, and hooked and crooked, atoms of Democritus, were indeed dreams and fancies is a poſition which no ſenſible perſon will controvert; but ſurely Strato was himſelf as great a dreamer when he made ſenſation and intelligence reſult from a certain plaſtic or ſpermatic life in matter, which is itſelf devoid of ſenſe and conſciouſneſs. It is, indeed, inconceivable, to uſe the emphatic language of Cudworth, "how any one in his ſenſes ſhould admit ſuch a monſtrous paradox as this, that every atom of duſt has in itſelf as much wiſdom as the greateſt politician and moſt profound philoſopher

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philoſopher, and yet is neither conſcious nor intelligent!" Strato likewiſe, though he attributed a certain kind of life to matter, by no means allowed of one common life as ruling over the whole material univerſe. He ſuppoſed the ſeveral parts of matter to have ſo many ſeveral plaſtic lives of their own, and ſeems to have attributed ſomething to chance in the production and preſervation of the mundane ſyſtem. In denying the exiſtence of a God, perpetually directing his plaſtic principle, and in ſuppoſing as many of theſe principles as there are atoms of matter, Strato deviated far from the doctrine of Ariſtotle. The great founder of the peripatetic ſchool, as well as his apoſtate diſciple, taught that mundane things are not effected by fortuitous mechaniſm, but by ſuch a *nature* as acts regularly and artificially for *ends*; yet he never conſiders this *nature* as the higheſt principle, or ſupreme *Numen*, but as ſubordinate to a perfect mind or intellect; and he expreſsly affirms, that "*mind*, together with *nature*, formed or faſhioned this univerſe." He evidently conſiders mind as the principal and intelligent agent, and nature as the ſubſervient and executive inſtrument. Indeed, we are ſtrongly inclined to adopt the opinion of the learned Moſheim, who thinks that by nature Ariſtotle meant nothing more than that ἔμφυτος φύσις, or *animal heat*, to which he attributes immortality, and of which he expreſsly ſays that all things are full (De *Gener. Anim.* l. iii. c. ii.) Be this as it may, he always joins God and nature together, and affirms that they do nothing in vain. The ſame doctrine was taught before him by Plato, who affirms that "nature, together with reaſon, and according to it, orders all things." Plato however, attributed intelligence to the principle by which he ſuppoſed the world to be animated, as Chalcidius, commenting on the Timæus, affirms: Apuleius, too, aſſures us of the ſame thing in *Dogmat. Platon.* This doctrine of Plato has been adopted by many moderns of eminence both for genius and for learning. The celebrated Berkeley Bp. of Cloyne, after giving the view of Plato's *anima mundi*, which the reader will find in our article MOTION § 6, recommends the ſtudy of his philoſophy in the ſtrongeſt terms. (See his *Siris*, N° 338.) Cudworth and Lord Monboddo are likewiſe ſtrenuous advocates for the Ariſtotelian doctrine of a plaſtic nature diffuſed through the material world; and a notion very ſimilar has lately occurred to a writer who does not appear to have borrowed it either from the *Lyceum* or the *Academy*. This is Mr Young, of whoſe *active ſubſtance*, and its agency in moving bodies, ſome account has been given elſewhere. See MOTION, § 7. As a mere unconſcious agent, *immaterial*, and, as he calls it, *immental*, it bears a ſtriking reſemblance to the *plaſtic nature* or *vegetable life* of Cudworth: but the author holds it to be not only the principle of motion, but alſo the *baſis* or *ſubſtratum* of matter itſelf; in the production of which, by certain motions, it may be ſaid to be more ſtrictly *plaſtic* than the *hylarchical* principle, or *vis renitrix*, or any other philoſopher with whoſe writings we have any acquaintance. Though this opinion be ſingular, yet as one great part of the utility of ſuch works as ours conſiſts in their ſerving as indexes to ſcience, we ſhall lay before our readers a ſhort abſtract of his reaſonings, and ſhall offer ſome remarks upon them as we proceed. The author, in a chapter entitled *Analyſis of Matter in general*, treats of primary and ſecondary qualities, and adheres too cloſely to the language of Locke, when he ſays, that "the nature of bodies ſignifies the aggregate of all thoſe *ideas* with which they furniſh us, and by which they are made known." This ſentence is inaccurately expreſſed. An aggregate of *ideas* may be occaſioned by the impulſe of bodies on the organs of ſenſe, but the effect of impulſe cannot be that which impels. Having juſtly obſerved, that we know nothing directly of bodies but their qualities, he proceeds to inveſtigate the nature of ſolidity. "Solidity (he ſays) is the quality of body which principally requires our notice. It is that which fills extenſion, and which reſiſts other ſolids, occupying the place which it occupies; thus making extenſion and figure real, and different from mere ſpace and vacuity. If the ſecondary qualities of bodies, or their powers, myſteriouſly to affect our ſenſes, depend on their primary qualities, it is chiefly on this of ſolidity, which is therefore the moſt important of the primary qualities, and that in which the eſſence of body is by ſome conceived to conſiſt. This idea of ſolidity has been judged to be incapable of any analyſis; but it appears evident to me, that the idea of ſolidity may be reſolved into another idea, which is that of the power of reſiſting within the extenſion of body. Hence it becomes unneceſſary, and even inadmiſſible, to ſuppoſe that ſolidity in the body is at all a pattern or archetype of our ſenſation." That ſolidity in the body, and we know nothing of ſolidity any where elſe, is no pattern of any ſenſation of ours, is indeed moſt true. (See METAPHYSICS, *Sect.* I. § 16—18.) but to reconcile this with what our author adds, that "ſolidity is no more in bodies than colours and flavours are, and that it is equally with them a *ſenſation* and an *idea*," would be a taſk to which our ingenuity is by no means equal. He affirms indeed, that ſolidity, as it is ſaid to be in bodies, is utterly incomprehenſible; that we can perfectly comprehend it as a ſenſation in ourſelves, but that in bodies nothing more is required than a power of active reſiſtance to make upon our ſenſes thoſe impreſſions from which we infer the reality of primary and ſecondary qualities. This power of reſiſtance, whether it ought to be called active or paſſive, we apprehend to be that which all other philoſophers have meant by the word *ſolidity*; and though Locke, who uſes the words *idea* and *notion* indiſcriminately, often talks of the idea of ſolidity, we believe our author to be the firſt of human beings who has thought of treating *ſolidity* as a ſenſation in the mind. Though it is wrong to innovate in language, when writing on ſubjects which require much attention, we however, ſhall follow our author in his endeavours to aſcertain what this power of reſiſtance is, which is commonly known by the name of *ſolidity*. All power he juſtly holds to be active; and having attempted to prove that it is by an inward power, and not by its *inertia*, that one body prevents another from occupying the ſame place with itſelf, he naturally enough infers matter to be effectually ac-

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le. SOLIDITY alone of the primary qualities ing positive, and peculiar to bodies, and our thor having resolved this into ACTION or POW-, it follows, by his analysis, that the ESSENCE BODY is reduced to power likewise. But, as properly observes, power is an idea of reflec-n, not acquired by the senses, but suggested thought. Hence our knowledge of real exis-ce in body must be such as is suggested to us our thoughts exercised about our sensations. We are capable of acting and producing chan-s in appearances; and this faculty, which we perience to exist in ourselves, we call power. e are conscious of the exertion of our own wer; and therefore, when we see ACTION or ANGE happen without any exertion of ours, fer this to other powers without us, and ne-farily conclude the POWER to exist where the nge begins or the action is exerted. This wer, then, referred to bodies, must exist in m, or it can exist no where." Our author en analyzes ATOMS, or the primary particles of tter, and strenuously opposes their impenetrabili-

He allows that there are atoms of matter not sible by any known force; but as these, how-r small, must still be conceived as having ex-tion, each of them must be composed of parts id together by the same power which binds to-ther many atoms in the same body; and as the al analysis may be carried on *ad infinitum*, the ly positive idea which is suggested by atoms, or e parts of atoms, is the idea of a resisting pow-. That this power, which constitutes the soli-ty of bodies, may not be absolutely impene-ble, he attempts to prove, by showing that re-tence does in fact take place in cases where penetrability, and even solidity, are not sup-sed by any man. "Let us endeavour (says) to bring together two like poles of a magnet, d we shall experience resistance to their approx-ation. Why, then, may not a piece of iron, uch between our fingers resists their coming ether, resist by an efficacy perfectly similar, ough more strongly exerted? If magnetism re to act upon our bodies as upon iron, we ould feel it; or were magnets endowed with sation, they would feel that which resists their ner approach. The resisting extention between two magnets is permeable to all the rays of ht, and reflecting none is therefore unseen. us we see that an action, in which no suppositi-n of solidity or impenetrability is involved, y be conceived to assume all the qualities of tter, by only supposing a familiar effect extend-in its operation." This reasoning is ingenious, t it does not approach so near to demonstration the author supposes. If magnets operate by a id issuing from them (see MAGNETISM, *Sect.* .) those who held the solidity or impenetrabili-of matter will maintain, that each atom of the gnetic fluid is solid and impenetrable. That do not see nor feel those atoms, will be consi-ed as no argument that they do not exist; for do not see, nor in a close room feel, the atoms the surrounding atmosphere; which yet Mr ung will acknowledge to have a real existence, d to be capable of operating upon our senses of hearing and smelling. Let us, however, suppose, that by this reasoning he has established the non-existence of every thing in the primary atoms of matter but active powers of resistance, and let us see how he conceives the actions of these powers to constitute what give us the notion of inert and solid body; for that we have such a notion cannot be denied. To ACT he allows to be an attribute, and justly observes, that we cannot conceive an attribute to exist without a substance. "But (says he) we have traced all phenomena to action as to a generic idea, comprehending under it all forms of matter and motion as species of that genus. By this analysis, that complex idea we have usually denominated *matter*, and considered as the substance or substratum to which motion appertained as an attribute, is found to change its character, and to be itself an attribute of a substance essentially active, of which one modification of motion produces matter, and another generates motion." The action of this substance Mr Young determines to be motion; (see MOTION § 7.) and he proceeds to inquire by what kind of motion it produces matter, or inert and resisting atoms. "Whatever portion of the ACTIVE SUBSTANCE is given to form an atom, the following things are necessary to be united in such portion of active substance: 1*st*, It must in some respect continually move; for otherwise it would lose its nature, and cease to be active. 2*dly*, It must also in some other respect be at rest, for otherwise it could not form an inactive atom. 3*dly*, It must preserve unity within itself." The author's proof of the first of these positions we have given elsewhere. The 2d he holds to be self-evident; and the third he thinks established by the following reasoning: "Solidity is the result of those actions among the parts of any whole, whereby the unity of the whole is preserved within itself. Several uncohering things may be united by an external bond: this does not constitute these one solid; it may be one bundle; but if several things cohere, and have a unity preserved within themselves, they become one solid. An atom is the least and most simple solid." After some additional arguments, he concludes, that "since any portion of active substances does, by revolving about a centre, become an united, resisting, and quiescent whole, the smallest portions of the ACTIVE SUBSTANCE which have such motions will become *atoms* or make the smallest portions of matter." He next explains what at first he confesses may have appeared a paradox, "how the ACTIVE SUBSTANCE, retaining its own nature and essential properties, continuing *immaterial*, *unsolid*, and *active*, puts on at the same time the form of matter, and becomes *material*, *solid* and *inert*. A sphere of revolving active substance, as it revolves continually about a centre, and as parts of the substance, are considered as successively passing through every point in the orbit; considered thus in its parts, and in its motions; it is ACTIVE SUBSTANCE, immaterial, and unsolid; but the whole sphere, considered unitically, collectively, and as quiescent, is in this point of view a solid atom, material, and inert." Such is the active substance of Mr Young, and such his theo-

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ry of the formation of matter. That he has not copied from the ancients, every learned reader will acknowledge; if his theory be well founded, he has discovered a middle substance between *mind* and *matter*, more properly *plastic*, than Aristotle or Plato, Cudworth or Berkeley, ever conceived. But his theory labours under insuperable objections. That there *may* be in the universe a substance essentially active, and at the same time not intelligent, is a proposition which we by no means controvert. Various phenomena, both in vegetable and animal life, lead us to suspect that there is such a substance; but it does not follow that we are to adopt our author's doctrine respecting the formation of matter. He conceives his proof, indeed, not to fall short of demonstration; and if any one refuse it, he thinks it will be necessary for him to show, either that the explanation offered is not sufficient, or that some other explanation will serve equally well." To show that the explanation offered is not sufficient, will not be a very arduous task; but we will not attempt another explanation, because we believe, that, of the formation of matter, no other account can be given, than that which resolves it into the *fiat* of the Creator. That it cannot be formed by the motion of an immaterial substance in the manner which our author has described, is a truth so evident as not to admit of proof; for if motion be, as he defines it, a change of place, every thing that is moved must have the quality of extension. But all the parts of this active substance which are given to form an atom, move round a centre, and are expressly said to occupy successively different *places* in the orbit of rotation. Every one of these parts, therefore, is an extended being: and since, according to our author, solidity is nothing but an *active power of resistance*, and the parts of this active substance, in their rotation round their centre, *act upon* and *resist* whatever interferes to oppose their activity, it follows that each of these parts is likewise a *solid being*. But, in the opinion of Mr Young himself, and of all mankind, whatever is extended and solid is material. This theory, therefore, exhibits a process in which atoms are formed of a substance, which, though it is said to be *active*, *immaterial*, and *unsolid*, appears, when narrowly inspected, to be nothing else than a collection of those very atoms of which the author pretends to explain the formation.

PLASTOW, or PLAISTOW, a township of New Hampshire, in Rockingham county, separated from Haverhill in Massachusetts by the S. State Line. It contained 521 citizens in 1795, and lies 28 miles SW. of Portsmouth.

* PLASTRON. *n. s.* [French.] A piece of leather stuffed, which fencers use, when they teach their scholars, in order to receive the pushes made at them. *Trevoux.*—

Flourish the sword, and at the *plastron* push.
Dryden.

* PLAT. *n. s.* [more properly *plot*; *plot*, *Sax.*] A small piece of ground.—

This flow'ry *plat*, the sweet recess of Eve.
Milton.

On a *plat* of rising ground,
I hear the far-off curfew sound, *Milton.*

—It passes through banks of violets and *plats* of willow of its own producing *Spectator.*

* *To* PLAT. *v. a.* [from *plait*.] To weave; to make by texture.—I have seen nests of an Indian bird curiously interwoven and *platted* together. *Ray.*—I never found so much benefit from any expedient, as from a ring, in which my mistress's hair is *platted* in a kind of the lover's knot. *Addison.*

(1.) PLATA, or LA PLATA, a very large river of S. America, absurdly stiled, as well as the country through which it runs, by many English writers *Rio-de-la-Plata*, as if these words *Rio-de-la* (i. e. *River of the*) either could not be translated into English, or formed a part of the name of the river or country. This river was first discovered by John Dias de Salis, or Solis, a Spanish navigator, who, in 1515, sailed up the Plata as far as an island, which lies in 34°. 40′ Lat. S. but who, imprudently venturing to go ashore with 12 men among some of the native Indians, they were all murdered by the savages. From him the river was at first named *Solis*; but afterwards Sebastian Cabot, having procured a great deal of gold and silver *plate* from the adjacent inhabitants, and considering these metals as the produce of the country, though in fact they came from Peru, named both the country and river *Plata*. Mr Cresswell, however, says the banks of the Plata abound with the precious metals. This river is formed by the junction of three large rivers, in Lat. 27. 45. S. viz. the Paraguay, the Uruguay and the Parana. (See PARAGUAY, N° 2.) It is afterwards greatly increased by the waters of many other large rivers, whereby it often overflows its banks for several leagues, like the Nile, and fertilizes the adjacent fields. Its waters are clear and sweet, and abound with such variety and plenty of fish, that the people take them with their hands without nets. In some places also its waters petrify. It crosses the country of Paraguay, and runs 300 miles, mostly S. and SE. from its rise by the junction of the 3 rivers to its mouth; where it is 210 miles broad, and falls into the sea with such force and rapidity, that the water continues fresh for several leagues from its mouth. It is interspersed with many islands and is navigable by the largest ships. It falls into the South Sea in Lat. 35° S.

(2.) PLATA, an extensive and fertile country of S. America on the banks of the Plata, in an excellent climate, called also *Paraguay*. See PARAGUAY, N° 1. Lat. from 32° to 37° S.

(3.) PLATA, a province in the above territory on the SW. bank of the Plata. The climate is healthy. The winter is in May, June, and July, when the nights are indeed very cold, but the days moderately warm; the frost is neither violent nor lasting, and the snows are very inconsiderable. The country consists mostly of plains of a vast extent, and exceeding rich soil, producing all sorts of European and American fruits, wheat, maize, cotton, sugar, honey, &c. and abounding with such excellent pastures, that the beasts brought hither from Spain are multiplied to such a degree, that they are all in common, no man claiming any property in them, but every man takes what he hath occasion for. The number of black cat-

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is so prodigious, that many thousands of them killed merely for their hides, every time the ps go for Spain, and their carcases left to be voured by wild beasts and birds of prey, which also very numerous. Horses are no less numerous, and in common like the other cattle; l of those that are already broke, one may buy ne of the best, and of the true Spanish breed, a dollar per head. Wild fowls also are in great nty here; partridges are more numerous, and large and tame as our hens. Their wheat kes the finest and whitest of bread; and, in a rd, the natives want for nothing but salt and l. The former the Spaniards have brought to m from other parts; and the latter they supply mselves with, by planting vast numbers of al-nd, peach, and other trees, which require no er trouble than putting the kernels into the und, and by the next year they begin to bear it. The return for European commodities is great here, that an ordinary two-penny knife s for a crown, and a gun of the value of 10 or shillings 20 or 30 crowns, and so of the rest.

4.) PLATA, a province and archbishop's see of America, in Buenos Ayres, about 600 miles g from N. to S. and 300 broad, lying on both s of the Plata. It is an extensive country and divided into 14 districts or jurisdictions. The nate is moderate and healthy, being chiefly the S. temperate zone. PLATA (N° 5.) is the pital.

5.) PLATA, a city of Buenos Ayres, and an bishop's see, capital of the above province; t in 1539, by Capt. Peter Anzures, by order Gonzales Pizarro. It stands in a plain, envi-ed by eminences, which defend it from all ds. The climate is mild; only in winter there thunder storms and great rains. The greatest t is scarcity of water. The number of inha-nts, Spaniards and native Indians, is about 00. The cathedral is large, well built and nely adorned. It has also an university and verned by an alcayd. Lon. 49. 0. E. Ferro. 49. 30. S.

6.) PLATA, a city of Peru, in the province of cas; on the Chimdo, 500 miles SE. of Cusco. 63. 40. W. Lat. 19. 16. S.

7.) PLATA, an island on the coast of Quito in ; 5 miles long and 4 broad. Lat 1. 10. S.

8.) PLATÆA, an island in the Mediterranean, e coast of Africa, which belonged to the Cy-ans. *Herodot.* iv. c. 157.

9.) PLATÆA, or } an ancient and strong town ATÆÆ, } of Bœotia, at the foot of t Cithæron, on the borders of Megaris and a, between Mount Cithæron, and Thebes; for a battle fought between Mardonius the general, and the united Spartans and A-s, under Pausanias and Aristides, wherein mer were defeated with great slaughter. rsian army consisted of 300,000 men, of scarcely 3000 escaped. The Grecian ar-only 91 Spartans, 52 Athenians, and 16 s. The plunder of the Persian camp was c. This decisive victory, which from that secured the liberties of Greece against the of the Persians, was fought on the 22d Sept. C. 479, the same day that the Greeks ob-

tained another important victory at Mycale. (See MYCALE, N° 1.) The Greeks, in memory of it, built a temple to *Jupiter Eleutherius*, and instituted the games called ELEUTHERIA. Platæa was taken by the Thebans, after a famous siege in the beginning of the Peloponnesian war; and afterwards destroyed by the Spartans, A. A. C. 427. It was rebuilt by Alexander the Great; but is now in ruins. *Herodot. Paus. Plut.* &c.

PLATÆANS, the people of PLATÆÆ. They were greatly attached to the Athenians, and sent them 1000 men, when Greece was invaded by Darius's general, Datis.

PLATALEA, the SPOONBILL, in ornithology, a genus belonging to the order of grallæ. The beak is plain, and dilates towards the point into an orbicular form; the feet have three toes, and are half palmated. See *Plate* CCLXXIV. There are three species distinguished by their colour: and three varieties:

1. PLATALEA AJAJA, the *roseate spoonbill*, is but a little less than the white, N° 2. The bill is marked all round with a furrow parallel to the edge, and is of a greyish white colour, so transparent as to show the ramification of the blood-vessels belonging to it: the forehead is of a whitish colour between the bill, and eyes, and throat: the plumage is a fine rose-colour, deepest on the wings: the legs are grey; the claws blackish; and the toes have membranes as in the next species. The variety of this species is entirely of a beautiful red colour, having a collar of black at the lower part of the neck; the irides are red. Mr Latham imagines it is the roseate in full plumage. It is said to be of a blackish chesnut the first year; becomes rose-coloured the second, and of a deep scarlet the third. It lives on small fish.

2. PLATALEA LEUCORODIA, the *white spoonbill*, is about the size of a heron, but somewhat shorter in the neck and legs. The bill is more than half a foot long, and, like that of the rest of the genus, is shaped like a spoon: the colour of the bill is very various, being in some birds black, in others brown, and sometimes spotted; from the base to two thirds of its length several indentations cross it, the rising parts of which are of a dark colour: the tongue is short and heart-shaped: the irides are grey: the skin of the lore round the eyes and of the throat is bare and black: the plumage is entirely white, though in some specimens the quills were tipped with black: the legs are generally either black or of a greyish brown colour; between the toes there is a membrane connected to the outer one as far as the second, and to the inner as far as the first joint. "This bird (says Mr Latham) is found in various parts of the old continent, and from the Ferro isles near Iceland to the Cape of Good Hope. It frequents the neighbourhood of the sea; and has been met with on the coasts of France; at Sevenhuys, near Leyden, once in great plenty, annually breeding in a wood there. The nest is placed on high trees near the sea-side. The female lays three or four white eggs, powdered with a few pale red spots, and of the size of those of an hen. They are very noisy during breeding time, like our rooks; are seldom found high up the rivers, chiefly frequenting the mouths of them. Their food is fish, which they

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often take from other birds, in the manner of the bald eagle; alſo muſſels and other ſhell-fiſh being found in greateſt numbers where theſe are plenty; and they will alſo devour frogs and ſnakes, and even graſs and weeds, which grow in the water, as well as the roots of reeds. They are migratory, retiring to the warmer parts as the winter approaches, and are rarely ſeen in England. Their fleſh is ſaid to have the flavour of a gooſe, and is eaten by ſome, and the young birds have been thought good food. By many authors they are called *pelicans*." The two varieties of this ſpecies are equal in ſize to the roſeate ſpecies. The bill of the firſt is reddiſh: the plumage moſtly white; the feathers of the wings partly white and partly black, and the legs reddiſh. The plumage of the other is entirely white, not excepting even the quills. It has a creſt of feathers whoſe webs are very looſe, and ſeparated from one another; the bill is of a ruſous grey colour, having red edges, and the legs are of a dull pale red. They both inhabit the *Philippine Iſlands*.

3. PLATALEA PIGMEA, the *dwarf ſpoonbill*, is about the ſize of a ſparrow. The bill is black, longer than the head, flat at the end, and nearly of a rhomboidal form; the angles and top of the upper mandible are white; the tongue is ſmooth; the body is brown above and white beneath; the quills have white ſhafts; the tail is rounded, ſhort, and of a browniſh white colour; the feet have 4 toes, are cloven, and the claws are pointed. It inhabits Surinam and Guiana.

PLATAMONE, a town of European Turkey, in Moldavia; at the mouth of the Jenicoro, 44 miles SSE. of Edeſſa.

(1.) * PLATANE. *n. ſ.* [*platane*, Fr. *platanus*, Latin.] The plane tree.—

The *platane* round,
The carver holm, the mapple ſeldom inward
ſound. *Spenſer.*

I eſpy'd thee, fair and tall,
Under a *platane*. *Milton.*

(2.) PLATANE. See PLATANUS.

PLATANI, a river of Sicily, which riſes near Caſtro Nuovo, and runs into the ſea 10 miles S. of Sacco.

PLATANIUS, a river of Bœotia. *Pauſ.*

PLATANUS, the PLANE-TREE; a genus of the polyandria order, belonging to the monœcia claſs of plants; and, in the natural method, ranking in the 50th order, *Amentaceæ*. There are two ſpecies:

1. PLATANUS OCCIDENTALIS, *occidental*, or *weſtern plane tree*, riſes with a ſtraight ſmooth ſtem, to a great height, branching widely round: it has lobated leaves, 7 or 8 inches long, and from 9 or 10 to 12 or 14 broad, divided into three large lobes; with very ſmall flowers, collected into round heads, ſucceeded by round rough balls of ſeed. It is a native of Virginia and other parts of North America; where it attains an enormous ſize, and is remarkable for having its ſtem all of an equal girth for a conſiderable length: ſome trees being 8 or 9 yards in circumference, which, when felled, afforded 20 loads of wood.

2. PLATANUS ORIENTALIS, *oriental* or *eaſtern plane tree*, riſes with a very ſtraight ſmooth branching ſtem to a great height. It has palmated leaves, 6 or 8 inches long and as broad, divided into five large ſegments, having the ſide ones cut into two ſmaller, green above, and pale underneath; on long pendulous pedunculi, each ſuſtaining a round heads of cloſe-ſitting very ſmall flowers, ſucceeded by numerous downy ſeeds, collected into round, rough, hard balls. It is a native of Aſia and many parts of the eaſt, and grows in great plenty in the Levant. The varieties of the two ſpecies are the *Spaniſh* or *middle plane*, having remarkably large leaves of 3 or 5 narrow ſegments; and the *maple-leaved plane tree*, having ſmaller leaves, ſomewhat lobated into 5 ſegments, reſembling the maple tree leaf.—All theſe ſeveral trees are of a hardy temperature, ſo as to proſper here in any common ſoil and expoſure in our open plantations, &c. and are ſome of the moſt ornamental trees of the deciduous tribe. They were in particular eſteem among the ancients of the eaſt, for their extraordinary beauty, and the delightful ſhade they afforded by their noble foliage. They are commonly expand in May, and fall off early autumn; and the flowers appear in ſpring, a little before the leaves, being ſucceeded by ſeeds, which in fine ſeaſons frequently ripen here in September. Theſe fine trees are ſingularly fitted for all ornamental plantations. Their ſtraight growth, regular branching heads, and the lofty ſtature they attain, together with the extraordinary breadth of their luxuriant leaves, render them extremely deſirable furniture to adorn avenues, lawns, parks and woods; ſome diſpoſed in ranges, ſome as ſtandards, others in clumps, ſome in groves, &c. They are moſt excellent for ſhade; for no trees better calculated to defend us from the heat of ſummer, by its noble ſpreading foliage, and to admit the ſun's rays more freely in winter, on account of the diſtance of its branches, which riſe always in proportion to the ſize of the leaves. They may alſo be employed in the collection of exotic trees, in woods, to grow up to timber, in which caſe they will alſo prove advantageous in time. In ſhort, they claim the attention of every one concerned in plantations of every kind. The propagation of theſe trees is by ſeed, layers and cuttings. The ſeeds frequently ripen in theſe parts, and are alſo procured from other countries, or may be obtained of the nurſerymen or ſeedſmen. The beſt ſeaſon for ſowing them is autumn, as they can be then procured. Chooſe a ſomewhat light moiſt ſoil; and having dug the ground, and made it fine, form it into 4 feet wide beds, and then ſcatter the ſeeds evenly on the ſurface and rake them in, or previouſly with the back of a rake turn the earth off the ſurface near half an inch deep into the alleys; then ſow the ſeed, and rake directly, with the rake turned the proper way, and level the earth evenly over the ſeeds, and trim the whole face ſmooth: many of the plants will riſe the ſpring, and probably may not till the ſpring following. When they are one or two years old, plant them out in nurſery rows, 2 or 3 feet aſunder, and about half that diſtance in the lines; to remain till of proper ſize for final tranſplantation. The moſt eaſy of propagation by layers is commonly practiſed in the nurſeries, in default of ſeed, and by which they moſt readily grow; for which purpoſe, the ſtout plants for ſtools muſt be planted, which year after muſt be headed down near the ſur-

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at they may throw out many ſhoots near the ound, convenient for laying; which, in the au- mn after they are produced, lay by for ſlit-lay- g; and by autumn after, they will be well root- , and form plants 2 or 3 feet high, ſo may be parated, and planted in nurſery rows like the dlings. All the ſorts will take tolerably by cut- g off the ſtrong young ſhoots; but the *platanus identalis* more freely than the oriental kind. ituma is the beſt ſeaſon: as ſoon as the leaf ls, chooſe ſtrong young ſhoots, and plant them a moiſt ſoil; many of them will grow, and ike tolerable plants by next autumn. To con- uc the diſtinction of the varieties more effectu- y, they ſhould be propagated either by layers cuttings: for, when raiſed from ſeed, thoſe of reſpective ſpecies generally vary.

(1.) PLATBAND, *n. ſ.* in gardening, a border bed of flowers, along a wall, or the ſide of a terre, frequently edged with box, &c.

(2.) PLATBAND of a door or window, is uſed the lintel, where that is made ſquare, or not ich marked.

(1.) * PLATE. *n. ſ.* [*plate*, Dutch; *plaque*, Fr.] A piece of metal beat out into breadth.—

Crowns and coronets, realms and iſlands were As *plates* dropt from his pocket. *Shak.*

Make a *plate*, and burniſh it as they do iron. *Ba* —The cenſers of rebellious Corah, &c. were by d's mandate made *plates* for the covering of the ly altar. *White.*—A leaden bullet ſhot from one theſe guns, the ſpace of 20 paces, will be beaten to a thin *plate*. *Wilkins.*—The cenſers of theſe tches were appointed to be beaten into broad tes, and faſtened upon the altar. *South.*—

Eternal deities!
Who write whatever time ſhall bring to paſs
With pens of adamant on *plates* of braſs. *Dryd.*

Armour of plates.—

With their force they pierc'd both *plate* and mail. *Spenſer.*

[*Plata*, Spaniſh.] Wrought ſilver.—

And leaving *plate*,
Do drink in ſtone of higher rate. *Ben Johnſon.*

The Turks entered into the trenches ſo far, that y carried away the *plate*. *Knolles's Hiſtory.*—

A table ſtood
Yet well wrought *plate* ſtrove to conceal the wood. *Cowley.*

They, that but now for honour and for *plate*
Made the ſea bluſh with blood, reſign their hate. *Waller.*

At your deſert bright pewter comes too late,
When your firſt courſe was all ſerv'd up in *plate*. *King.*

What nature wants has an intrinſick weight; ll more, is but the faſhion of the *plate*. *Young.*

Plat, Fr. *piatta*, Italian.] A ſmall ſhallow veſ- of metal on which meat is eaten.—

Aſcanius this obſerv'd, and, ſmiling, ſaid, ce, we devour the *plates* on which we fed. *Dryd.*

(3.) PLATE is likewiſe uſed by ſportſmen to ex- s the reward given to the beſt horſe at races; ich was formerly often a piece of elegant ſilver e, as a tea pot, tea kitchen, caudle cup or ich bowl; but is now almoſt univerſally con- ted into a purſe. The winning a plate or purſe ot the work of a few days to the owner of the horſe; but great care and preparation is to be made for it, if there is any great dependence on the ſucceſs. A month is the leaſt time that can be allowed to draw the horſe's body clear, and to refine his wind to that degree of perfection that is attainable by art. See RACE.

(3.) PLATE, in geography, a town of Upper Saxony, in Pomerania, on the Rega; 17 miles ESE. of Cammin, and 22 S. of Colberg. Lon. 33. 0. E. Ferro. Lat. 53. 49. N.

(4.) PLATE, a town of Hiſpaniola, or St Domingo, on the S. ſide of the N. Peninſula. Lon. 75. 40. W. of Paris. Lat. 10. 16. N.

(5.) PLATE, MONTE DE, a mountainous diſtrict near the centre of Hiſpaniola, towards the E.

(6.) PLATE, PORT DE, a ſea-port on the N. coaſt of Hiſpaniola, near a mountain; 66 miles W. of Old Cape François. The environs abound with gold, ſilver and copper, whence the name. Before the late horrors committed by the French and Negroes, it had 2500 inhabitants and a handſome church.

* *To* PLATE. *v. a.* [from the noun.] 1. To cover with plates.—The doors are curiouſly cut through and *plated*. *Sandys.*—M. Lepidus's houſe had a marble door-caſe; afterwards they had gilded ones, or rather *plated* with gold. *Arbuthnot.*

2. To arm with plates.—

Plate ſin with gold,
And the ſtrong lance of juſtice hurtleſs breaks. *Shak.*

Marſhal, aſk yonder knight in arms,
Why *plated* in habiliments of war? *Shak.*

Old warriours turn'd
Their *plated* backs under his heel. *Milton.*

3. To beat into laminæ or plates.—

The miſer will his empty palace lend,
Set wide his doors, adorn'd with *plated* braſs. *Dryden.*

—If a thinned or *plated* body, of an uneven thickneſs, which appears all over of one uniform colour, ſhould be ſlit into threads of the ſame thickneſs with the *plate*; I ſee no reaſon why every thread ſhould not keep its colour. *Newton.*

* PLATEN. *n. ſ.* Among printers, the flat part of the preſs whereby the impreſſion is made.

(1.) * PLATFORM. *n. ſ.* [*plat*, flat, Fr. and *form*.] 1. The ſketch of any thing horizontally delineated; the ichnography.—When the workmen began to lay the *platform* at Chalcedon, eagles conveyed their lines to the other ſide of the ſtreight. *Sandys's Journey.* 2. A place laid out after any model.—

Grove nods at grove, each alley has a brother,
And half the *platform* juſt reflects the other. *Pope.*

3. A level place before a fortification.—

Where was this?

—Upon the *platform* where we watch. *Shak.*

4. A ſcheme; a plan.—Their minds and affections were univerſally bent even againſt all the orders and laws wherein this church is founded, conformable to the *platform* of Geneva. *Hooker.*—I have made a *platform* of a princely garden by precept. *Bacon's Eſſays.*—They who take in the entire *platform*, and ſee the chain, which runs through the whole, will diſcern how theſe propoſitions flow from them. *Woodward.*

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(2.) PLATFORM, in architecture, is a row of beams which support the timber work of a roof, and lie on the top of a wall where the entablature ought to be raised. This term is also used for a kind of terrace, or broad smooth open walk, at the top of a building, from whence a fair prospect may be taken of the adjacent country. Hence an edifice is said to be covered with a platform, when it is flat at top, and has no ridge. Most of the oriental buildings are thus covered, as were all those of the ancients. It is astonishing, that the useless and inconvenient mode of the ridged roofs, which are so often attended with fatal accidents, should ever have become so general as they now are in Europe.

(3.) PLATFORM, in the military art, is an elevation of earth, on which cannon are placed to fire on the enemy; such are the mounts in the middle of curtins. On the ramparts there is always a platform, where the cannon are mounted. It is made by the heaping up of earth on the rampart, or by an arrangement of madriers, rising insensibly, for the cannon to roll on, either in a case-mate or on attack in the outworks. All practitioners are agreed, that no shot can be depended on, unless the piece can be placed on a solid platform; for if the platform shakes with the first impulse of the powder, the piece must likewise shake, which will alter its direction, and render the shot uncertain.

(4.) PLATFORM, or ORLOP, in a man of war, is a place on the lower deck, abaft the main mast, between it and the cockpit, and round about the main capstan, where provision is made for the wounded men in time of action.

* PLATICK ASPECT. In astrology, is a ray cast from one planet to another, not exactly, but within the orbit of its own light. *Bailey.*

(1.) PLATINA, Bartholomew Sacchi, or *Philip*, as others call him, a learned Italian historian, born in 1421, at Piedena, a village between Cremona and Mantua. He first embraced a military life, but afterwards devoted himself to literature. He went to Rome under Calixtus III, about 1456; was introduced to Cardinal Bessarion, obtained some benefices from Pius II, and was appointed apostolical abbreviator. Paul II. succeeding, abolished the offices of all the abbreviators. Platina complained to the Pope, and requested to be judged by the auditors of the Rota. Paul gave him a haughty repulse: Platina wrote to him, which Paul considered as an act of rebellion, and put him in prison, where he suffered great hardships for 4 months, when he was liberated, but forbid to leave Rome. After this he was again imprisoned with many others, on suspicion of a plot, and put to the rack. The plot being found imaginary, he was next accused of heresy: All this persecution he is said to have suffered for assuming the name of *Callimachus*. (See NAME, § II, 2.) Sixtus IV. succeeding Paul, in 1467, appointed Platina keeper of the Vatican library; in which station he lived very happily till 1481, when he died of the plague. He was author of several works, of which the most famous is his *History of the Popes*.

(2.) PLATINA, or PLATINUM. See PLATINUM.

(1.) PLATING, *part. n. f.* is the art of covering base metals with a thin plate of silver either for use or for ornament. It is said to have been invented by a spur-maker, not for show but for real utility. Till then the more elegant spurs in common use were made of solid silver, and from the flexibility of that metal they were liable to be bent into inconvenient forms by the slightest accident. To remedy this defect, a workman at Birmingham contrived to make the branches of a pair of spurs hollow, and to fill that hollow with a slender rod of steel or iron. Finding this a great improvement, and being desirous to add cheapness to utility he continued to make the hollow larger, and of course the iron thicker and thicker, till at last he discovered the means of coating an iron spur with silver, in such a manner as to make it equally elegant with those which were made wholly of that metal. The invention was quickly applied to other purposes; and numberless utensils which were formerly made of brass or iron are now given the strength of those metals, and the elegance of silver, for a small additional expence. The silver plate is generally made to adhere to the baser metal by means of solder; which is of two kinds, the *soft* and the *hard*, or the *tin* and *silver* solders. The former of these consists of tin alone, the latter generally of three parts of silver and one of brass. When a buckle, for instance, is to be plated by means of the soft solder, the ring, before it is bent, is first tinned, and then the silver plate is gently hammered upon it, the hammer employed being always covered with a piece of cloth. The silver now forms, as it were, a mould to the ring, and whatever of it is not intended to be used is cut off. This mould is fastened to the ring of the buckle by two or three cramps of small iron wire; after which the buckle, with the plated side undermost, is laid upon a plate of iron sufficiently hot to melt the tin, but not the silver. The buckle is then covered with powdered resin or anointed with turpentine; and lest there should be a deficiency of tin, a small portion of rolled tin is likewise melted on it. The buckle is now taken off with tongs, and commonly laid on a bed of sand, where the plate and the ring, while the solder is yet in a state of fusion, are more closely compressed by a smart stroke with a block of wood. The buckle is afterwards bent and finished. Sometimes the melted tin is poured into the silver mould, which has been previously rubbed over with some flux. The buckle ring is then put among the melted tin, and the plating finished. This is called by the workmen *filling up*. When the hard solder is employed, the process is in many respects different. Before the plate is fitted to the iron or other metal, it is rubbed over with a solution of borax. Stripes of silver are placed along the joinings of the plate; and instead of two or three cramps as in the former case, the whole is wrapped round with small wire; the solder and joinings are again rubbed with the borax, and the whole put into a charcoal fire till the solder be in fusion. When taken out the wire is instantly removed, the plate is cleaned by the application of some acid, and afterwards made smooth by the strokes of a hammer.

(2.) PLATING, FRENCH, is when silver leaf is burnished on a piece of metal in a certain degree

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heat. When silver is dissolved in aquafortis, l precipitated upon another metal, the process alled SILVERING.

3.) PLATING, METAL, is when a bar of silver l copper are taken of at least one equal side. e equal sides are made smooth, and the two s fastened together by wire wrapped round m. These bars are then sweated in a charcoal ; and after sweating, they adhere as closely ether as if they were soldered. After this y are flattened into a plate between two rollers, en the copper appears on one side and the sil- on the other. This sort of plate is named *ted metal.*

1.) PLATINUM, or PLATINA, the most pre- us of all the metals excepting GOLD, and by ne even reckoned superior to it. Dr Thomson, his *Syst. of Chem.* vol. I. p. 91.) says, "Gold been always in high estimation, on account of scarcity, beauty, ductility and indestructibility ; Platinum, though perhaps inferior in a few of se qualities, is certainly far superior in others." CHEMISTRY, *Index ;* METALLURGY, *Part* II. . II. and MINERALOGY, *Part* II. *Chap.* VII. *d.* II. *Part.* III. *Chap.* IV. § II. and *Chap.* V. §. "It was unknown, (adds the learned Doctor) a distinct metal before 1752. It has hitherto en found only in America, in Choco in Peru, d in the mine of Santa near Carthagena. It was known in Europe till Mr Wood brought some it from Jamaica, in 1741. In 1748 it was no- ed by Don Antonio De Ulloa, a Spanish ma- matician;—several papers on it were published Dr Watson in the 46th vol. of the *Philos. Transf.* hese immediately attracted the attention of the ost eminent chemists. In 1754, Mr Scheffer of eden published the first accurate examination its properties. He proved it to be a new me- approaching very much to the nature of gold, d therefore gave it the name of *aurum album, hite gold.* Dr Lewis published a still more com- ete set of experiments on it, in 1754. Soon af- r dissertations were published on it by Margraf, lacquer and Beaume; Buffon, Tillet, and Mor- eau; Sickingen; Bergman; and more lately by uffin, Puschkin, and Morveau," &c. "Platinum, hen pure, is of a white colour like silver, but not bright. To this colour (the Dr adds in a note) owes its name. *Plata* in Spanish is *silver*, and *tina, little silver*, was the name first given to e metal. Bergman changed it into *Platinum*, at the Latin names of all the metals might have e same termination and gender. It had been, wever, called *platinum* by Linnæus long before." It has no taste nor smell. Its hardness is 8. Its speci- gravity, after being hammered, is 23'000; so that is by far the heaviest body known. It is exceed- gly ductile and malleable; it may be hammered it into very thin plates, and drawn into wires t exceeding one 1940th of an inch in diameter. these properties it is probably inferior to gold; t it seems to surpass all the other metals. Its nacity is such, that a wire of Platinum $\frac{1}{120}$ inch diameter is capable of supporting a weight of 97 lb. without breaking. It is the most infusible f all the metals, and cannot be melted, in any uantity at least, by the strongest artificial heat, hich can be produced. Macquer and Beaume melted small particles of it by a blow-pipe, and Lavoisier by exposing them on red hot charcoal to a stream of oxygen gas. It may, indeed, be melted without difficulty when combined or mixed with other bodies, but then it is not in a state of purity. Pieces of platinum, when heated to whiteness, may be welded together by hammering in the same manner as hot iron. This metal is not in the smallest degree altered by the action of air or water."

(2.) PLATINUM, ALLOY OF. "When gold and platinum are exposed to a strong heat, they combine, and form an *alloy* of gold and platinum. If the platinum exceed one 17th of the gold, the colour of the alloy is much paler than gold; but if it be under one 17th, the colour of the gold is not sensibly altered. Neither is there any alteration in the ductility of the gold."

(3.) PLATINUM, OXIDE OF. "Platinum (says Dr Thomson,) cannot be combined with oxygen, and converted into an oxide by the strongest artificial heat to which it has been possible to expose it. Platinum, indeed, in the state in which it is brought from America, may be partially oxydated by exposure to a violent heat, as numerous experiments have proved; but in that state it is not pure, but combined with a quantity of iron. It cannot be doubted, however, that, if we could subject it to a sufficient heat, platinum would burn and be oxidated like other metals: For when Van Marum exposed a wire of platinum to the action of his powerful electrical machine, it burnt with a faint white flame, and was dissipated into a species of dust, which proved to be the *oxide of platinum.* This metal may be oxidated in any quantity, by boiling it in 16 times its weight of nitro-muriatic acid. The acid dissolves it, and assumes first a yellow, and afterwards a deep red, or rather brown colour. On the addition of lime to the solution, a yellow powder falls to the bottom. This powder is the *oxide of platinum.* Its properties have not been examined with sufficient accuracy. It seems to contain but a small proportion of oxygen; probably not more than 0·07. This oxide may be decomposed, and the oxygen driven off, by exposing it to a violent heat."

(4.) PLATINUM, PHOSPHURET OF. See PHOSPHURET, N° 13.

(5.) PLATINUM, QUANTITIES OF, FOUND NATIVE. In the *Physical Journal* for Nov. 1785, we are told, that a native piece of platina was found nearly of a square figure, and almost as large as a pigeon's egg, which was deposited in the Royal Society of Biscay. M. de Buffon says, that "a person of credit had assured him that platina is sometimes found in large masses; and that he had seen a lump of it weighing no less than 20lb. which had not been melted, but taken in that state out of the mine." As to the small particles, they are of a whiter colour than iron, with a smooth surface. Their figure is generally of an oblong form, very flat, rounded in the edge, and has been ascribed to the hammering of the mills in which the gold is amalgamated. The heterogeneous substances with which the platina is generally mixed are particles of gold, grains of quartz or crystal, some sand of a brownish hue, and some dust of a dark colour obedient to the magnet, and which seems to be fragments

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fragments of other irregular dark-coloured particles, which reſemble pieces of emery or loadſtone. Dr Ingenhouſz, however, ſays, that every particle even of ſome fine platina which he examined obeyed the magnet more or leſs, excepting ſome that were tranſparent and ſtony; and that theſe were all magnets in themſelves, or that each of theſe particles had two poles, which he could change at pleaſure by magnetic bars. In about 72 lb. weight of platina which was brought from Spaniſh America, M. Magellan found not only a large quantity of ferruginous ſand, but many pieces of vegetable ſtalks, a number of ſeeds, and ſome very ſmall red cryſtals like rubies. Theſe cryſtals being ſent to M. Achard of Berlin, he tried them as far as their minuteneſs and ſmall quantity would permit, and at laſt concluded that they really were *rubies*!

(6.) PLATINUM, VARIOUS DISCOVERIES, MANUFACTURES AND USES OF. Dr Lewis found that copper was much improved by allaying it with platina in certain proportions; and that equal parts of platina and braſs formed a compound not ſubject to tarniſh, and which might be employed with great advantage for the ſpeculums of teleſcopes. Beſides allaying it with the different metals, it was an object equally intereſting to the chemiſts and ſociety, that platina ſhould be obtained pure and unmixed; and that means ſhould be contrived to render it fuſible, malleable, and ductile. After a vaſt variety of experiments by the moſt eminent chemiſts in Europe, it was found that the moſt effectual and advantageous method of ſeparating platina from gold was founded on a property which gold has, and not platina, of being capable of precipitation from aqua regia by martial vitriol; and upon a property which platina has, and not gold, of being capable of precipitation from aqua regia by ſal ammoniac. When therefore we would diſcover if gold be allayed with platina, let it be diſſolved in aqua regia; and to this ſolution, which will contain both metals, let ſome ſal ammoniac diſſolved in water be added; upon which the platina will be precipitated in form of a brick-coloured ſediment. If, on the other hand, we would know if platina contain any gold, let this platina be diſſolved in aqua regia, and to the ſolution add a ſolution of martial vitriol in water; upon which the liquor will become turbid, and the gold will form a precipitate which may be eaſily ſeparated by decanting and filtrating the liquor. This property which platina poſſeſſes of being precipitated by martial vitriol was firſt diſcovered by M. Scheffer. With reſpect to the iron contained among the platina, M de Buffon ſeparated, by means of a magnet, ſix parts out of ſeven of a parcel of platina. He diſtinguiſhed two different matters in platina; of which one was black, friable, and attractable by magnets; and the other conſiſted of larger grains, was of a livid white or yelloviſh colour, much leſs attractable, and was extenſible. Between theſe two different matters were many intermediate particles, ſome partaking more of the former, and ſome of the latter. But the moſt important diſcovery concerning the ſeparation of platina from other metals was a method of melting it, by which it became a perfect metal, malleable, and denſer than gold. It was in 1773 and 1774 that M. de Liſle effected this, by diſſolving crude platina in aqua regia, precipitating it from the acid menſtruum by ſal ammoniac, and melting this precipitate, without addition, in a coal crucible, expoſed to the intenſe heat of a new fire excited by double bellows. M. Morveau repeated the experiment, and found that he could melt the precipitate with ſeveral fluxes; he found likewiſe that by means of white glaſs, borax, and charcoal, he could melt even crude platina, and could allay together platina and ſteel in various proportions. M. de Sickengen was the inventor of another method: he diſſolved his platina in aqua regia, and precipitated the iron by the pruſſiat of potaſs. In evaporating this liquor he obtained ſmall octahedral cryſtals of the colour of rubies; which, being expoſed to a ſtrong heat, yielded a metal which bore eaſily the ſtroke of the hammer, which could be readily drawn into wire, and was extremely malleable. In attempting to refine platina by the dry way, cupellation was the method to which the chemiſts early had recourſe; but, notwithſtanding their utmoſt endeavours, it has not been attended with all the ſucceſs which could have been wiſhed. Meſſ. Macquer and Beaumé kept the matter expoſed to a violent fire about 50 hours ſucceſſively: and although their platina was tarniſhed and rough on its ſurface, it was internally white and ſhining, and eaſily ſeparable from the cupel, and a little diminiſhed in weight; a certain proof that no lead remained in it. This platina was alſo ductile, and capable of extenſion under the hammer. Cupellation, therefore, though not the beſt, is at leaſt a certain method of applying platina to uſe, and of forming it into utenſils. What has been thought a preferable method, is firſt to fuſe the platina with arſenic, and afterwards diſſipate this laſt metal by a ſtrong heat: by theſe means Achard and Rochon were able to obtain a pure platina; of which the former made ſome ſmall crucibles, and the latter, by allaying it with copper and tin, ſome large mirrors for reflecting teleſcopes. Jeanety of Paris has gone ſtill farther: beſides ſnuff-boxes, watch-chains, and a coffee-pot of platina prepared by this artiſt, the world has ſeen a lens weighing 6 lb. a ball weighing 9, and two bars 19 feet long, and weighing no leſs than 11 lb. each. This gentleman has the merit of being the firſt who wrought this metal in the great way. The method he employed was far from being new; it had been ſuggeſted by Schöffer, by Willis, by Margraf, and was afterwards practiſed by Achard, Morveau, and many others, but who always prepared it in very ſmall quantities. In the *Chemical Annals* for July 1792, the following account of it is given by himſelf. The platina is firſt pounded in water to diſengage it from the ferruginous and other heterogeneous particles that are mixed with it. "This being done, I take (ſays he) 1½ lb. of platina, 2 lb. of white arſenic in powder, and 1 lb. of purified potaſh. I mix the whole: I put a crucible in the fire capable of containing about 20 lb. when my furnace and crucible are well heated, I throw into the crucible one 3d of the mixture, and apply a good heat; I then add a 2d quantity and a 3d, and ſo on, always taking care at every time to mix the whole well

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od of platina. I give now a conſiderable force to ıe fire; and when I am certain that the whole is ompletely in a ſtate of fuſion, I withdraw my ucible and leave it to cool. After breaking it, I nd a button that is well formed and attractable y the magnet. I bruiſe this button into ſmall eces, and fuſe it a 2d time in the ſame manner: if is 2d fuſion, which it generally is, be not ſuffient to effect the ſeparation of the iron from the latina, I fuſe it a 3d time; but if I be obliged to o it a 3d time, I always put two buttons toge-er, to ſave at once a crucible and charcoal. This rſt operation being finiſhed, I take a crucible ith a flat bottom, and of a circumference to give the button about 3¼ inches in diameter. I make is crucible red hot, and throw into it 1½ lb. of e platina which has been already fuſed with the ſenic after it was broken into ſmall pieces; to is I add a quantity of arſenic of the ſame weight, nd about half a pound of refined potaſh. I give the fire a conſiderable force; and when I am ertain that the whole is completely in a ſtate of ıſion, I withdraw my crucible and leave it to ool, taking care always to place it horizontally, ıat the button may be of an equal thickneſs. Af-r breaking the crucible, I find a button clear and onorous, and weighing commonly about 1 lb. 1 oz. I have remarked, that in proportion to he quantity of arſenic combined with the platina, he purification always ſucceeds with the more or eſs promptneſs and eaſe; and the greater the pro-portion ſo much the better. In this ſtate I put ny button into a furnace under a muffle, not igher than the edge of the button lying on its flat ide, and inclining a little to the walls of the muffle. n this manner I place three buttons on each ſide f the muffle, and apply fire to my furnace, that he muffle may be equally heated throughout: as oon as the buttons begin to evaporate I ſhut the loors of my furnace, that the heat may be kept up to the ſame degree; this ought always to be carefully attended to even to the end of the ope-ration, for even a temporary exceſs of heat might ſpoil the whole of my paſt operations and render them abortive. I cauſe my buttons to volatilize during ſix hours, always taking care to change their ſituation, that every part may receive an e-qual portion of heat: I then put them in common oil, and for a like time keep them in a fire ſuffi-cient to diſſipate the oil in ſmoke, I continue this operation as long as the button emits vapours; and when the evaporation has ceaſed I puſh the fire as far as it will go by means of the oil. Theſe arſenical vapours have a bright ſhining metallic appearance, which I never can obtain any other way, and without which I have never been able to render platina perfectly malleable. If theſe ſteps which are here pointed out be properly fol-lowed, the operation laſts *only* 8 days. My but-tons are then thrown into the nitrous acid, and af-terwards boiled in diſtilled water, till no part of the acid remains with them: I now heap them together one above another, apply the ſtrongeſt poſſible heat, and beat them with a hammer, taking always care at the firſt heat to make them red hot in the crucible, that no foreign bodies may mix with them, as before this compreſſion they are only ſo many ſpongy maſſes. I afterwards heat them in a naked ſtate *(les chauffe à nud)*; and bringing them to a ſquare form, I hammer them on all ſides for a ſhorter or longer time ac-cording to their bulk." Such is the proceſs ob-ſerved by Jeanety in fuſing platina; but he thinks that the working of this metal is ſuſceptible of ſtill greater improvement. In 1788 it was accordingly propoſed by ſome of the French chemiſts to fuſe platina by mixing it with charcoal and phoſphoric glaſs, and afterwards to expoſe the phoſphure of platina to a heat ſufficient to volatilize and diſſipate the phoſphorus. This method ſucceeded very well with M. Pelletier; but, beſides being tedious, it is difficult to ſeparate the laſt portions of the phoſ-phorus; and as theſe operations are always coſtly, few artiſts are willing to undertake them. M. de Morveau has alſo fuſed platinum with his vitre-ous flux, made of pounded glaſs, borax, and char-coal: and Beaumé has adviſed to fuſe it with a ſlight addition of lead, biſmuth, antimony, or ar-ſenic, and by keeping the alloy in the fire a long time to diſſipate the metals which have facilitated the fuſion. Platinum may likewiſe be fuſed with a metal ſoluble in an acid: the mixture being pul-verized, the alloyed metal may be diſſolved, and the powder of platinum may then be fuſed with the flux of De Morveau; or, inſtead of uſing a ſoluble metal, M. Chaptal ſays, a calcinable me-tal may be employed, and heated as before. The colour of platinum, when properly refined, is ſomething between that of iron and ſilver. It is the moſt durable of all the metals: it is harder than iron; it undergoes no alteration in the air, and fire alone does not even appear to poſſeſs the power of changing it; for which reaſon it forms the beſt of all crucibles that have yet been invent-ed. It reſiſts the action of acids, alkalis, and ſul-phurs: it may be rolled into plates as fine as leaves of gold which are uſed in gilding; it is likewiſe extremely ductile: and Dr Withering tells us, that a wire of platinum is ſtronger than a wire of gold or of ſilver of the ſame thickneſs; it is preferable to gold by the property which it has of ſoldering or welding without mixture; and it unites, ſays Chaptal, two qualities never before found in one and the ſame ſubſtance. When formed into a mir-ror, it reflects but one image, at the ſame time that it is as unchangeable as a mirror of glaſs. It is ſaid, that a mine of platinum has been lately diſcovered in S. America.

PLATO, an illuſtrious philoſopher of antiqui-ty, was by deſcent an Athenian, though the place of his birth was the iſland of Ægina. His deſcent by his father was from Codrus the laſt king of Athens, and by his mother from Solon the cele-brated legiſlator. The time of his birth is placed in the beginning of the 88th Olympiad; but Dr Enfield thinks it may be more accurately fixed in the 3d year of the 87th Olympiad, or 430 years before the Chriſtian era. He gave early indications of an extenſive and original genius, and had an e-ducation ſuitable to his high rank, being inſtructed in the rudiments of letters by the grammarian Di-onyſius, and trained in athletic exercites by Ariſto of Argos. He applied with great diligence to the arts of painting and poetry; and wrote an epic poem, which, upon comparing it with thoſe of Homer, he burnt. He next wrote a dramatic piece, which

was

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was to have been acted, but happening to attend upon a diſcourſe of Socrates, he was ſo captivated by his eloquence, that he reclaimed his tragedy, renounced the Muſes, burnt all his poems, and applied himſelf wholly to the ſtudy of wiſdom. It is ſaid, that Plato's firſt maſters in philoſophy were Cratylus and Hermogenes, who taught the ſyſtems of Heraclitus and Parmenides; but when he was 20 years old, he attached himſelf wholly to Socrates, with whom he remained 8 years as a ſcholar. During this period, he frequently diſpleaſed his companions, and ſometimes even his maſter, by grafting upon the Socratic ſyſtem opinions which were taken from ſome other ſtock. Plato, however, retained the warmeſt attachment to his maſter. When that great and good man was ſummoned before the ſenate, his illuſtrious ſcholar undertook to plead his cauſe, and begun a ſpeech in his defence; but the partial judges would not permit him to proceed. After the condemnation, he preſented his maſter with money ſufficient to redeem his life; which, however, Socrates refuſed to accept. During his impriſonment, Plato attended him, and was preſent at a converſation which he held with his friends concerning the immortality of the ſoul; the ſubſtance of which he afterwards committed to writing in the beautiful dialogue entitled *Phædo*. The philoſophers at Athens were ſo alarmed at the death of Socrates, that moſt of them fled from the city. Plato, whoſe grief upon this occaſion is ſaid by Plutarch to have been exceſſive, retired to Megara; where he was kindly entertained by Euclid, who had been one of Socrates's firſt ſcholars, till the ſtorm was over. Afterwards he travelled in purſuit of knowledge; and from Megara he went to Italy, where he conferred with Eurytus, Philolaus, and Archytas, the moſt celebrated of the followers of Pythagoras, whoſe doctrine was then become famous in Greece; and from theſe the Pythagoreans have affirmed that he had all his natural philoſophy. He next went to Cyrene, where he learned geometry of Theodorus the mathematician. Thence he paſſed into Egypt, to acquire their theology, to ſtudy more nicely the proportions of geometry, and to inſtruct himſelf in aſtronomical obſervations; and having taken a full ſurvey of all the country, he ſettled for ſome time in the province of Sais, learning of the wiſe men there, what they held concerning the univerſe, whether it had a beginning, whether it moved wholly or in part, &c.; and Pauſanias affirms, that he learned from theſe the immortality and tranſmigration of ſouls. He next travelled into Perſia to conſult the magi about the religion of that country. He then returned into Italy, to the Pythagorean ſchool at Tarentum, where he endeavoured to improve his own ſyſtem, by incorporating with it the doctrine of Pythagoras, as it was then taught by Archytas, Timæus, and others. And afterwards, when he viſited Sicily, he retained ſuch an attachment to the Italic ſchool, that, through the bounty of Dionyſius, he purchaſed at a vaſt price ſeveral books which contained the doctrine of Pythagoras, from Philolaus, one of his followers. Returning home richly ſtored with knowledge of various kinds, Plato ſettled in Athens, and formed a new ſchool for the inſtruction of youth in philoſophy, in the academy. (See ACADEMUS and ACADEMY, § 2.) The new ſchool ſoon became famous, and its maſter was ranked among the moſt eminent philoſophers. People of the firſt diſtinction in every department frequented the academy. Even females, diſguiſed in mens clothes, often attended his lectures. Among the illuſtrious names which appear in the catalogue of his followers are Dion the Syracuſian prince, and the orators Hyperides, Lycurgus, Demoſthenes, and Iſocrates. The diſtinguiſhed reputation of Plato brought upon him the envy of his former companions in the ſchool of Socrates, and they loaded him with detraction and obloquy. From this ſpirit, Xenophon and he, tho' they relate the diſcourſes of their common maſter, avoid mentioning one another. Diogenes the Cynic ridiculed Plato's doctrine of ideas. In the midſt of theſe private cenſures, however, the public fame of Plato daily increaſed; and ſeveral ſtates, among which were the Arcadians and Thebans, ſent ambaſſadors with earneſt requeſts that he would come over, not only to inſtruct their young men in philoſophy, but alſo to preſcribe them laws of government. The Cyrenians, Syracuſians, Cretans, and Eleans, ſent alſo to him: but did not go to any of them, but gave laws and rules of governing to all. He lived ſingle, yet ſoberly and chaſtly. He was a man of great virtues, and exceedingly affable; of which we need no greater proof, than his civil manner of converſing with the philoſophers of his own times, when pride and envy were at their height. Diogenes piqued at the politeneſs and fine taſte of Plato, took every opportunity of ſnariing at him. He dined one day at his table with other company, and, trampling upon the tapeſtry with his dirty feet, ſaid, "I trample upon the pride Plato;" to which Plato wiſely reparteed, "With greater pride." The fame of Plato drew diſciples to him from all parts; among whom were Speuſippus an Athenian, his ſiſter's ſon, whom he appointed his ſucceſſor in the academy, and the great Ariſtotle. The admiration of this illuſtrious man was not confined to a few philoſophers. He was in high eſteem with ſeveral princes, particularly Archelaus king of Macedon, and Dionyſius tyrant of Sicily. At three different periods he viſited the court of this latter prince, and made ſeveral bold but unſucceſsful attempts to ſubdue his haughty ſpirit. The profeſſed object (ſays Dr Enfield, in his *Hiſt. of Philoſ.*) of Plato's firſt viſit to Sicily, which happened in the 40th year of his age, during the reign of the elder Dionyſius, the ſon of Hermocrates, was, to take a ſurvey of the iſland, and particularly of Mount Ætna. Whilſt he reſided at Syracuſe, he was employed in the inſtruction of Dion, the king's brother-in-law, who poſſeſſed excellent abilities, though hitherto reſtrained by a tyrannical government, and relaxed by the luxuries of a licentious court. Diſguſted at the debaucheries of the Syracuſans, Plato endeavoured to reſcue his pupil from the general depravity. Nor did Dion diſappoint his hopes. No ſooner had he received a taſte of that philoſophy which leads to virtue, than he was fired with an ardent love of wiſdom. Hoping that philoſophy might produce the ſame effect upon Dionyſius,

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procured an interview between Plato and the nt. During the conference, whilſt Plato diſ-rſed on the happineſs of virtue, and the miſeries nding injuſtice and oppreſſion, Dionyſius took ace, diſmiſſed him with diſpleaſure, and even ed a deſign againſt his life. It was not with-difficulty that Plato eſcaped. A veſſel which brought over Pollis, a delegate from Sparta, fortunately then returning to Greece. Dion ged Pollis to land Plato ſafely in his native ntry; but Dionyſius diſcovered the deſign, m'le Pollis promiſe, that he would either him to death, or ſell him as a ſlave. Pollis rdingly ſold him in his native iſland of Ægi-Anicerris a Cyrenaic philoſopher diſcovered ſtranger, and purchaſed his freedom for 30 e, (84 l. 10 s. Sterling,) and ſent him home thens. Repayment being afterwards offered nicerris by Plato's relations, he refuſed the ey, ſaying, with that generous ſpirit which philoſophy inſpires, that he ſaw no reaſon the relations of Plato ſhould engroſs to them-s the honour of ſerving him. After a ſhort val, Dionyſius repented of his unjuſt reſent-t, and wrote to Plato, requeſting him to re-his credit by returning to Syracuſe; to which o gave this high-ſpirited anſwer, that philoſo-would not allow him leiſure to think of Dio-us. He was, however, prevailed upon by n to return to Syracuſe, and take upon him education of Dionyſius the younger, the heir arent. He was received by Dionyſius I. with y poſſible reſpect; but after ſeeing his friend iſhed, and being himſelf kept as a kind of pri-r at large in the palace, he was by the tyrant back into his own country, with a promiſe both he and Dion ſhould be recalled at the of the war in which the Sicilians were then aged. This promiſe was not fulfilled. The nt wiſhed for the return of Plato; but could reſolve to recal Dion. At laſt, however, ha-probably promiſed that the philoſopher ſhould t his friend at the court of Syracuſe, he pre-ed upon Plato to viſit that capital a third time. en he arrived, the king met him in a magni-nt chariot, and conducted him to his palace. Sicilians too rejoiced in his return; for they ed that the wiſdom of Plato would at length mph over the tyrannical ſpirit of the prince. nyſius ſeemed wholly divelted of his former atments, liſtened with apparent pleaſure to ph loſopher's doctrine, and among other ex-ſions of regard, preſented him with 80 talents old. In the midſt of a numerous train of phi-phers, Plato now poſſeſſed the chief influ-and authority in the court of Syracuſe. ilſt Ariſtippus was enjoying himſelf in ſplen-luxury; whilſt Diogenes was freely indulg-his acrimonious humour; and whilſt Æſchi-was gratifying his thirſt after riches; Plato orted the credit of philoſophy with an air of ity, which his friends regarded as an indica-of ſuperior wiſdom, but which his enemies uted to pride. After all, Plato could not pre-upon Dionyſius to alter his ſyſtem of policy, to recal Dion from exile. At length Plato ſted permiſſion to return to Greece, which was at laſt granted him, and he was ſent home loaded with rich preſents. On his way to Athens, paſſing through Elis during the celebration of the Olympic games, he was preſent at this general aſſembly of the Greeks, and engaged univerſal attention. From this narrative it appears, that if Plato viſited the courts of princes, it was chiefly from the hope of ſeeing his ideal plan of a perfect republic realized. Plato now devoted himſelf to ſcience, and ſpent the laſt years of a long life in the inſtruction of youth. Having enjoyed the advantage of an athletic conſtitution, and lived all his days temperately, he arrived at the 79th or 81ſt year of his age, and died, in the firſt year of the 108th Olympiad. He paſſed his whole life in a ſtate of celibacy, and therefore left no natural heirs, but transferred his effects by will to his friend Adiamantus. The grove and garden, which had been the ſcene of his philoſophical labours, at laſt afforded him a ſepulchre. Statues and altars were erected to his memory; the day of his birth long continued to be celebrated as a feſtival by his followers; and his portrait is to this day preſerved in gems: but the moſt laſting monuments of his genius are his writings, which have been tranſmitted, without material injury to the preſent times. The character of this philoſopher has always been high. He had a comprehenſive underſtanding, a vaſt ſtund of wit and good taſte, great ſweetneſs of temper, all cultivated and refined by education and travel; ſo that he was honoured by his countrymen, eſteemed by ſtrangers, and adored by his ſcholars. The ancients thought more highly of Plato than of all their philoſophers: they always called him the *Divine Plato;* and they reſolved that his deſcent ſhould be more than human, for Apuleius mentions a common report, "that his mother Perictione, who was a very beautiful woman, was impregnated by Apollo in the ſhape of a ſpectre." Plutarch, Suidas, and others, affirm this to have been the common report at Athens. When he was an infant, his father Ariſto went to Hymettus, with his wife and child, to ſacrifice to the Muſes; and while they were buſied in the divine rites, a ſwarm of bees came and diſtilled their honey upon his lips. This, ſays Tully, was conſidered as a preſage of his future eloquence. The Greeks loved fables; theſe ſhow, however, what high reſpect was paid to the memory of Plato. Tully adored him; tells how he was juſtly called by Panætius the *divine*, the *moſt wiſe*, the *moſt ſacred*, the *Homer of philoſophers;* entitled him to Atticus, *Deus ille noſter;* thought, that if Jupiter had ſpoken Greek, he would have ſpoken in Plato's language; and made him ſo implicitly his guide in wiſdom and philoſophy, as to declare, that he had rather *err* with Plato than *be right* with any one elſe. But, panegyric aſide, Plato was certainly a very wonderful man, of an imagination amazingly fertile, and of a moſt copious eloquence. Yet the heat of fancy prevailing in his compoſition over his judgment, he was too apt to ſoar beyond the limits of earthly things, to range in the imaginary regions of general and abſtracted ideas; and therefore though there is always a greatneſs and ſublimity in his manner, he did not philoſophize

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losophize so much according to truth and nature as Ariſtotle, though Cicero gives him the preference. The writings of Plato are all in the form of dialogue; where he ſeems to deliver nothing from himſelf, but every thing as the ſentiments and opinions of others, of Socrates chiefly, of Timæus, &c. He does not mention himſelf anywhere except once in his Phædo, and another time in his Apology for Socrates. His ſtyle, as Ariſtotle obſerved, is between proſe and verſe: on which account ſome have not ſcrupled to rank him with the poets. A better reaſon may be aſſigned for this: his matter is oftentimes the offſpring of imagination, inſtead of truths deduced from nature. The firſt edition of Plato's works in Greek was publiſhed by Aldus at Venice in 1513; but a Latin verſion by Marſilius Ficinus had been printed there in 1491. They were reprinted together at Lyons in 1588, and at Francfort in 1602. Henry Stephens, in 1578, gave a moſt beautiful and correct edition of Plato's works at Paris, with a new Latin verſion by Serranus, in 3 vols folio; and this paſſes for the beſt edition of Plato: yet in many reſpects, if not in all, it is inferior to that of Ficinus.

PLATOBERG, a mountain of Germany, in the ci-devant duchy of Deux-Ponts, now included in the French republic, and dep. of the Rhine and Moſelle. It was fortified by the Pruſſians, who held it as a ſtrong hold in 1793: but the French took it by aſſault in July 1794. It is four miles N. of Landau.

PLATONIC, *adj.* relating to Plato, his philoſophy, opinions, or the like. Thus,

1. PLATONIC LOVE denotes a pure ſpiritual affection, for which Plato was a great advocate, ſubſiſting between the different ſexes, abſtracted from all carnal appetites, and regarding no other object but the mind and its beauties; which many perſons juſtly reckon an impoſſibility; or it is a ſincere diſintereſted friendſhip ſubſiſting between perſons of the ſame ſex, abſtracted from any ſelfiſh views, and regarding no other object than the perſon; and ſuch love or friendſhip certainly has a foundation in nature; and hiſtory ſacred and profane records glorious inſtances; witneſs JONATHAN and DAVID; ORESTES and PYLADES, ACHILLES and PATROCLUS; DAMON and PYTHIAS, &c.

2. PLATONIC PHILOSOPHY. See PHILOSOPHY, *Sect.* I; PLASTIC, § 4; and PLATONISM.

3. PLATONIC TRINITY. See PLATONISM.

4. PLATONIC YEAR, or the GREAT YEAR, is a period of time determined by the revolution of the equinoxes, or the ſpace wherein the ſtars and conſtellations return to their former places, in reſpect of the equinoxes. The platonic year, according to Tycho Brahe, is 25816, according to Ricciolus 25920, and according to Caſſini 24800 years. This period once accompliſhed, it was an opinion among the ancients that the world was to begin anew, and the ſame ſeries of things to turn over again.

PLATONISM, *n. ſ.* the philoſophy of Plato, which was divided into three branches, *theology*, *phyſics*, and *mathematics*. Under *theology* was comprehended metaphyſics and ethics, or that which in modern language is called *moral* philoſophy. Plato wrote likewiſe on *dialectics*, but with ſuch inferiority to his pupil Ariſtotle, that his works in that department of ſcience are ſeldom mentioned. The ancient philoſophers always began their theological ſyſtems with diſquiſitions on the nature of the gods, and the formation of the world; and it was a fundamental doctrine with them, that *from nothing nothing can proceed*. They believed that a proper creation was impoſſible even to Omnipotence, and that to the production of any thing, a *material* is not leſs neceſſary than an *efficient* cauſe. (See METAPHYSICS, *Sect.* XXXV.) That with reſpect to this important queſtion, Plato agreed with his predeceſſors and contemporaries, appears evident from the whole tenor of his *Timæus*. We agree with Dr Enfield in thinking, that in this dialogue, which comprehends his whole doctrine on the formation of the univerſe, *matter* is ſo manifeſtly ſpoken of as eternally co-exiſting with God, that this part of his doctrine could not have been miſtaken by ſo many learned and able writers, had they not been ſeduced by the deſire of eſtabliſhing a coincidence of doctrine between the writings of Plato and Moſes. It is certain that neither Cicero, Apuleius, Alcinous, nor even Chalcidius, underſtood Plato in any other ſenſe than as admitting two primary and incorruptible principles, God and *matter*; to which we have reaſon to add a third, namely *ideas*. The paſſages quoted by thoſe who maintain the contrary opinion, by no means anſwer their purpoſe. Plato, indeed, calls God the *parent of the univerſe*, and ſpeaks of him as "forming animate and inanimate beings, which did not before exiſt:" but theſe expreſſions do not imply that this offſpring of Deity was produced from *nothing*, or that no prior matter exiſted from which they were formed. Through the whole Timæus, Plato ſuppoſes two eternal and independent cauſes of all things; one, that by which all things are made, which is God; the other, that *from* which all things are made, which is matter. He diſtinguiſhes between God, matter, and the univerſe, and ſuppoſes the Architect of the world to have formed it out of a maſs of pre-exiſtent matter. Matter, according to Plato, is an eternal and infinite principle. His doctrine on this head is thus explained by Cicero: "Matter, from which all things are produced and formed, is a ſubſtance without form or quality, but capable of receiving all forms, and undergoing every kind of change; in which, however, it never ſuffers annihilation, but merely a ſolution of its parts, which are in their nature infinitely diviſible, and move in portions of ſpace which are alſo infinitely diviſible. When that principle which we call quality is moved, and acts upon matter, it undergoes an entire change, and thoſe forms are produced, from which ariſes the diverſified and coherent ſyſtem of the univerſe." Plato alſo inſiſts upon the notion, that matter has originally no form, but is capable of receiving any. He calls it the mother and receptacle of forms, by the union of which with matter the univerſe becomes perceptible to the ſenſes; and maintains, that the viſible world owes its forms to the energy of the divine

ivine intellectual nature. Our author is support-
d in drawing this inference by the teſtimony of
iogenes Laertius, who ſurely underſtood the
nguage and opinions of Plato better than the
oſt accomplished modern ſcholar can pretend
o do; y t the learned Dr Ogilvie has expreſſed
eat ſurpriſe that any one ſhould conſider mat-
r as having been, in Plato's opinion, uncreated;
id he affirms, that Laertius, inſtead of aſſerting
at ſpirit and matter were the principles of all
ings, ought to have ſaid that God alone, in Pla-
's eſtimation, was their original. To prove this,
gives from the Timæus a quotation, in which
ato declares that God *framed* heaven and earth,
id the inferior deities; and that as he *faſhioned*,
he pervades all nature. He obſerves, that Ci-
ro denominates the god of Plato the *maker*, and
e god of Ariſtotle only the *governor*, of the
orld. And, to ſatisfy thoſe who demand a proof
Plato's having taught a real creation, he affirms
at his writings abound with declarations on the
bject, of which the meaning cannot be miſap-
ehended. But the declarations of Plato on
is ſubject appear by no means explicit; and the
ference which Dr Ogilvie draws from the *words*
Cicero ſeems not to flow neceſſarily from the
e of thoſe words. That Plato believed God
have *framed* the heaven and the earth, and to
ve *faſhioned* all nature, is a poſition which has
ver been controverted; but between *framing*
faſhioning the chaos, and calling the univerſe
to exiſtence from *nonentity*, there is an infinite
id an obvious difference. The diſtinction made
Cicero between the God of Plato and the God
Ariſtotle is juſt, but it will not bear the ſuper-
ructure which Dr Ogilvie builds upon it. Ariſ-
tle maintained the eternity of the world in its
eſent form. Plato taught that the firſt matter
as in time reduced from a chaotic ſtate into
rm by the power of the Demiurgus; but no-
ing in his writings declares his belief that the
ſt matter was itſelf *created*. The learned Cud-
orth, who wiſhed, like Dr Ogilvie, to find a co-
idence of doctrine between the theology of
ato and that of the Goſpel, exerted all his abi-
ies to prove that Plato taught a proper crea-
n; but he laboured in vain. He gives a num-
r of quotations in ſupport of his poſition; of
hich we ſhall here inſert only thoſe two upon
hich Dr Ogilvie ſeems to lay the greateſt ſtreſs.
ato, (ſays he) calls the one God, "*He that
kes earth, and heaven, and the gods, and doth all
ngs both in heaven, and hell, and under the
rth.*" And, again, "he by whoſe efficiency
things of the world *were afterwards made*
en they were not before." Both Cudworth and
ilvie think this laſt ſentence an explicit decla-
tion of Plato's belief in the creative power of
d: but that they are miſtaken has been evin-
d by Moſheim with a force of argument which
admit of no reply. Moſheim thinks that
dworth was miſled by too implicit a confidence
Ficinus; and it is not impoſſible that Dr Ogil-
may have been ſwayed by the authority of
dworth. That intellect exiſted antecedent to
odies is indeed a Platonic dogma, from which
Ogilvie, after Cudworth, wiſhes to infer that
the doctrine of the creation was taught in the a-
cademy; but Dr Ogilvie knows, and no man
knew better than Cudworth, that Plato, with e-
very other Greek philoſopher, diſtinguiſhed be-
tween *body* and *matter*; and that though he held
the priority of intellect to the former, it by no
means follows that he believed it to have exiſted
antecedent to the latter. That he believed *mind*,
or rather *ſoul* (for he diſtinguiſhes between the
two), to be the cauſe or principle of motion, can-
not be denied; but we are not therefore autho-
riſed to conclude that he likewiſe believed it to
be the cauſe of the exiſtence of matter. That he
believed mind to be the moſt ancient of *all things*,
taking the word *things* in the moſt abſolute ſenſe,
cannot be true, ſince by Dr Ogilvie's own ac-
knowledgment he held the exiſtence and eternity
of *ideas*, not to add that he believed το ον or τ'α-
γαθον—the firſt hypoſtaſis in his trinity, to be ſu-
perior to mind and prior to it, though not in
time, yet in the order of nature. When, there-
fore, he calls mind the moſt ancient of *all things*,
he muſt be ſuppoſed to mean only that it is more
ancient than *all bodies* and inferior ſouls. It is no
reflection on Plato that he could not, by the ef-
forts of his own reaſon, acquire any notion of a
proper creation; ſince we, who have the advan-
tage of his writings, and of writings infinitely
more valuable, find it extremely difficult, if not
impoſſible, to conceive how any thing *can begin*
to be. We believe the fact on the authority of
revelation; but ſhould certainly have never agi-
tated ſuch a queſtion, had it not been ſtated to
us by writers inſpired with celeſtial wiſdom. In
the Platonic coſmogony we cannot therefore
doubt but that the eternity of the ὑλη προσα was
taken for granted. But Plato did not believe it
to have a ſingle form or quality which it did not
receive either from the *Demiurgus* or the *Pſyche*—
the 2d or 3d perſon of his trinity. Except Ariſ-
totle, all the Greek philoſophers, who were not
materialiſts, held nearly the ſame opinions re-
ſpecting the origin of the world; ſo that in exa-
mining their ſyſtems, we ſhall be greatly miſled
if we underſtand the terms *incorporeal* and *imma-
terial* as at all ſynonymous. It was alſo a doc-
trine of Plato, that there is in matter a neceſſary
but blind and refractory force; and that hence
ariſes a propenſity in matter to diſorder and de-
formity, which is the cauſe of all the imperfec-
tion which appears in the works of God, and the
origin of evil. On this ſubject Plato writes with
wonderful obſcurity, but he appears to have
thought, that matter, from its nature, reſiſts the
will of the Supreme Artificer, ſo that he cannot
perfectly execute his deſigns; and that this is the
cauſe of the mixture of good and evil in the ma-
terial world. Plato, however, was no materialiſt.
He taught, that there is an intelligent cauſe,
which is the origin of all ſpiritual being, and the
former of the material world. The nature of
this great being he pronounced it difficult to diſ-
cover. The exiſtence of God he inferred from
the marks of intelligence, which appear in the
form and arrangement of bodies in the viſible
world: and from the unity of the material ſyſ-
tem he concluded, that the mind by which it was

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formed muſt be ONE. God, according to Plato, is the ſupreme intelligence, incorporeal, without beginning, end, or change, and capable of being perceived only by the mind. His notions of God are indeed exceedingly refined, and ſuch as it is difficult to ſuppoſe that he could ever have acquired, but from ſome obſcure remains of primeval tradition. In the Divine Nature he believed that there are two, and probably three, *hypoſtaſes*, whom he called το ον and το εν, νους and ψυχη. The firſt he conſidered as ſelf-exiſtent, and elevated far above all mind and all knowledge; calling him, by way of eminence, *the being*, or *the one*. The only attribute which he acknowledged in this perſon was goodneſs; and therefore he frequently ſtyles him το αγαθον—*the good*, or *eſſential goodneſs*. The 2d he conſidered as mind, the *wiſdom* or *reaſon* of the firſt, and the *maker of the world*; and therefore he ſtyles him νους, λογος, and δημιουργος. The 3d he always ſpeaks of as the *ſoul of the world*; and hence calls him ψυχη, or ψυχη του κοσμου. He taught that the *ſecond* is a neceſſary emanation from the *firſt*, and the *third* from the *ſecond*, or perhaps from the *firſt* and *ſecond*. Plato often aſſerts, as ſuperior to the ſelf-moving principle, an immoveable νους, or intellect, which was properly the *demiurgus* or framer of the world; and above this *hypoſtaſis* one moſt ſimple and abſolutely perfect being, who is conſidered in his *Theology* as αυθοδος, the *original deity*, in contradiſtinction from the others, who are only θεοι εκ θεου. Theſe doctrines are to be gathered from his works at large, particularly from his *Timæus*, *Philebus*, *Sophiſta*, and *Epinomis*: but there is a paſſage in his 2d epiſtle to Dionyſius, in anſwer to a letter in which that monarch had required him to give a more explicit account of the nature of God, in which the doctrine of a Trinity ſeems to be directly aſſerted. "The Lord of Nature (ſays Plato) is ſurrounded on all ſides by his works: whatever is, exiſts by his permiſſion; he is the fountain and ſource of excellence: around the 2d perſon are placed things of the 2d order; and around the 3d thoſe of the 3d degree." Of this obſcure paſſage a very ſatisfactory explanation is given in Dr Ogilvie's *Theology of Plato*, to which we refer the reader. The account given above of the Platonic Trinity is ably ſupported by the Doctor. In treating of the eternal emanation of the ſecond and third Hypoſtaſes from the firſt, the philoſophers of the academy compare them to light and heat proceeding from the ſun. Plato himſelf, as quoted by Dr Cudworth, illuſtrates his doctrine by the ſame compariſon. The reſemblance which this trinity of Plato bears to that revealed in the goſpel, muſt be obſerved by every reader; but the two doctrines are in ſome reſpects exceedingly diſſimilar. The third hypoſtaſis in the Platonic ſyſtem appears in no point of view co-ordinate with the firſt or ſecond. Indeed the firſt is elevated far above the ſecond, and the third ſunk ſtill farther beneath it, being conſidered as a mere ſoul immerſed in matter, and forming with the corporeal world, to which it is united, one compound animal. Nay, it is not certain, that Plato conſidered his ψυχη του κοσμου as a pure ſpirit, or as having ſubſiſted from eternity as a diſtinct *Hypoſtaſis*. "This governing ſpirit, of whom the earth, properly ſo called, is the body, conſiſted, according to him, of the *firſt matter*, and of *pure intelligence*, framed to actuate the machinery of nature. The Supreme Being placed him in the middle of the earth; which, in the vivid idea of Plato, ſeemed itſelf to him a conſequence of an influence that was felt in every part of it. From this ſeat his power is repreſented as being extended on all ſides to the utmoſt limit of the heavens; conferring life, and preſerving harmony in the various and complicated parts of the univerſe. Upon this being God looked with peculiar complacency after having formed him as an image of himſelf, and gave beauty and perfect proportion to the manſion which he was deſtined to occupy. The Supreme Being ſtruck out from this original mind innumerable (ſpirits of) inferior order, endowed with principles of reaſon; and he committed to divinities of ſecondary rank the taſk of inveſting theſe in material forms, and of diſperſing them as inhabitants of the ſun, moon, and other celeſtial bodies. He taught alſo, that at death the human ſoul is reunited to the ψυχη του κοσμου, as to the ſource from which it originally came. Such is the third perſon of the Platonic triad, as we find his nature and attributes accurately ſtated by Dr Ogilvie; and the Chriſtian philoſopher will not require another proof, that the triad of Plato differs eſſentially from the Trinity of the Scriptures. That his doctrine on this ſubject ſhould be inaccurate and erroneous, can excite no wonder; whilſt it muſt be confeſſed to have ſuch a reſemblance to the truth, and to be ſo incapable of being proved by reaſoning from effects to cauſes, that we could not doubt of his having inherited it by tradition, even though we had not complete evidence that ſomething very ſimilar to it was taught long before him, not only by Pythagoras and Parmenides, but by the philoſophers of the eaſt. In Plato's coſmogony there is another principle, more myſterious, if poſſible, than any thing yet mentioned. This is his intellectual ſyſtem of *ideas*, which is not eaſy to collect from his writings, whether he conſidered as *independent* exiſtences, or only as archetypal *forms*, which had ſubſiſted from eternity in the λογος or divine intellect. On this ſubject he writes with ſuch exceeding obſcurity, that men of the firſt eminence, both among the ancients and the moderns, have differed about his real meaning. Some have ſuppoſed, that by them he meant real beings ſubſiſting from eternity independent of all minds, and ſeparate from matter; and that of theſe ideas he conceived ſome to be living, and others to be without life. In this manner his doctrine is interpreted by Plotinian among the ancients, by the celebrated Ficinus among the moderns; and by many other equally learned, candid, and acute. But Cudworth and his annotator Moſheim, contend, that by the ideal world Plato meant nothing more than that there exiſted from eternity in the λογος, or mind of God, a notion of every thing which was in time to be made. This is certainly much more probable, than that ſuch a man as Plato could have ſuppoſed, that there are ſomewhere in the tramundane ſpace real living incorporeal beings eating and drinking, which are the *ideas* of all

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animals which ever have been or ever will be eating and drinking in this world. Yet Mosheim acknowledges, that if the controversy were to be decided by the votes of the learned, he is doubtful whether it would be given for or against him; and Cudworth owns, that on this subject Plato's language cannot be vindicated. This indeed is true, for Plato contends, that his ideas are not only the objects of science, but also the proper or physical causes of all things here below; that the *idea* of similitude is the *cause* of the resemblance between two globes; and the *idea* of dissimilitude the cause that a globe does not resemble a pyramid: he likewise calls them *ουσιαι*, *essences* or *substances*, and many of his followers have pronounced them to be *animals*. Dr Enfield, having observed, that some of the admirers of Plato contend, that by ideas existing in the reason of God, nothing more is meant than conceptions formed in the Divine mind, controverts this opinion with much effect. "By ideas, Plato (says he) appears to have meant something much more mysterious; namely, patterns or archetypes subsisting by themselves, as real beings, *ουσιαι ουσαι* in the Divine reason, as in their original and eternal region, and issuing thence to give form to sensible things, and become objects of contemplation and science to rational beings. It is the doctrine of the Timæus, that *ο λογισμος του Θεου*, the reason of God, comprehends exemplars of all things, and that this reason is one of the primary causes of things. Plutarch says, that Plato supposes three principles, God, Matter, and Idea. Justin Martyr, Theodo-Origen, and others, assert the same thing. That this is the true Platonic doctrine of *ideas* appears probable from the manner in which Plato framed his system of opinions concerning the origin of things. 'Having been from his youth (says Aristotle) conversant with Cratylus, a disciple of Heraclitus, and instructed in the doctrine of that school, that all sensible things are variable, and cannot be proper objects of science, he reasonably concluded, that if there be any such thing as science, there must exist, besides sensible objects, certain permanent natures, perceptible only by the intellect.' Such natures, divine in their origin, and eternal and immutable in their existence, he admitted into his system, and called them *ideas*, while things were regarded by Plato as fleeting species, and ideas as the only permanent substances. These he conceived to be the proper objects of science to a mind raised by divine contemplation above the perpetually varying scenes of the sensible world." It was a fundamental doctrine in the system of Plato, that the Deity formed the sensible world after a perfect model, consisting of those ideas which had eternally subsisted in his own reason; and yet, with apparent contradiction, he calls this model "*self*-existent, indivisible, and eternally *generated*." Nay, he talks of it as being intelligent as well as eternal, and wholly different from the transcripts, which are subjected to our inspection. There is so much mystery, confusion, and apparent absurdity, in the whole of this system, as it has come down to us, that it is surprising, that Plato should have had so many admirers. With almost every ancient theist of Greece, Plato believed in an order of beings called *dæmons*, which were superior to the souls of men, and struck off by the Demiurgus from the soul of the world. Of these the reader will find some account under DÆMON and POLYTHEISM. We mention them here because they make an important appearance in Plato's system of physics, which was built upon them. He taught, that the visible world was formed by the Supreme Architect, uniting eternal and immutable ideas to the first matter; that the universe is one animated being, including within its limits all animated natures: that, in the formation of the visible and tangible world, fire and earth were first formed, and were afterwards united by means of air and water; that from perfect parts one perfect whole was produced, of a spherical figure, as most beautiful in itself, and best suited to contain all other figures; that the elementary parts of the world are of regular geometrical forms, the particles of earth being cubical, those of fire pyramidical, those of air in the form of an octohedron, and those of water in that of an icosohedron; that these are adjusted in number, measure, and power, in perfect conformity to the geometrical laws of proportion; that the soul which pervades this sphere is the cause of its revolution round its centre; and, lastly, that the world will remain for ever, but that by the action of its animating principle, it accomplishes certain periods, within which every thing returns to its ancient place and state. This periodical revolution of nature is called the PLATONIC or GREAT YEAR. (See PLATONIC, § 4.) Plato, preparatory to the study of all philosophy, required from his disciples a knowledge of the elements of MATHEMATICS. In his *Republic*, he makes Glaucus, one of the speakers, recommend them for their usefulness in human life. Concerning policy, Plato has written at large in his *Republic* and in his *Dialogue on Laws*. He was so fond of his own ideas on this subject, that it was chiefly the hope of having an opportunity to realise his plan of a republic, which induced him to visit the court of Dionysius. But they who are conversant with mankind, and capable of calmly investigating the springs of human actions, will easily perceive that his projects were chimerical, and could only have originated in a mind replete with philosophical enthusiasm. Of this nothing can be a clearer proof than the design of admitting in his republic a community of women, to give reason an entire controul over desire. The main object of his political institutions appears to have been, the subjugation of the passions and appetites, by means of the abstract contemplation of ideas. A system of policy, raised upon such fanciful grounds, cannot merit a more distinct consideration." Such is genuine PLATONISM as it was taught in the old academy by the founder of the school and his immediate followers; but when Arcesilaus was placed at the head of the academics, great innovations were introduced both into their doctrines and mode of teaching. (See ARCESILAUS.) This man was therefore considered as the founder of what was afterwards called the *middle* academy. Being a professed sceptic, he carried his maxim of uncertainty to such a height, as to alarm the general body of philosophers,

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ſophers, offend the governors of the ſtate, and bring juſt odium upon the very name of the academy. At length *Carneades*, one of the diſciples of this ſchool, relinquiſhing ſome of the more obnoxious tenets of Arceſilaus, founded what has been called the *new* academy with very little improvement on the principles of the middle. See CARNEADES. Under one or other of theſe forms Platoniſm found its way into the Roman republic. Cicero was a Platoniſt, and one of the greateſt ornaments of the ſchool. A ſchool of Platoniſts was likewiſe founded in Alexandria in the 2d century of the Chriſtian era; but their doctrines differed in many particulars from thoſe taught in the three academies. They profeſſed to ſeek truth wherever they could find it, and to collect their dogmas from every ſchool. They endeavoured to bend ſome of the principles of Plato into a conformity with the doctrines of the goſpel; and they incorporated with the whole many of the maxims of Ariſtotle and Zeno, and not a few of the fictions of the eaſt. Their ſyſtem was therefore extremely heterogeneous, and ſeldom ſo rational as that of the philoſopher after whoſe name they were called, and of whoſe doctrines we have given ſo copious a detail. See AMMONIUS, ECLECTICS, and PLOTINUS.

PLATONIST, *n. ſ.* A philoſopher, who adopts the ſentiments and ſyſtem of PLATO.

To PLATONIZE, *v. n.* [*platonizo*, Lat.] To adopt and imitate the ſtyle, ſentiments and philoſophy of Plato. See *To* PHILONIZE.

(1.) * PLATOON. *n. ſ.* [a corruption of *peloton*, Fr.] A ſmall ſquare body of muſketeers, drawn out of a battalion of foot, when they form the hollow ſquare, to ſtrengthen the angles: the grenadiers are generally thus poſted; yet a party from any other diviſion is called a *platoon*, when intending too far from the main body. *Military Dict.*—

In comely wounds ſhall bleeding worthies ſtand,
Webb's firm *platoon*, and Lumly's faithful band.
Tickel.

(2.) PLATOON EXERCISE, an important branch of MILITARY ſervice, which is the ſequel of the MANUAL EXERCISE, and the regulations reſpecting which are publiſhed along with thoſe reſpecting the former. The following is an abſtract of the PLATOON EXERCISE, as altered and abridged "by his Majeſty's Command, April 20. 1792," and publiſhed at London, in 1795, by William Fawcett, Adjutant General "to be invariably practiſed by his whole army." The PLATOON EXERCISE is always to be done with ranks cloſed, except at the Drill. WORDS OF COMMAND. I. "*Make ready.* As uſual, bring the firelock to the *recover*, and inſtantly cocking. 1ſt. Slip the left hand along the ſling as far as the ſwivel of the firelock, and bring the piece down to H. *Preſent*, ſtepping back about ſix inches to the rear with the right foot. III. *Fire.* After firing, drop the firelock briſkly to the *priming* poſition. 2d. Half cock. IV. *Handle Cartridge.* 1ſt. Draw the cartridge from the pouch. 2d. Bring it to the mouth, holding it between the fore-finger and thumb, and bite off the top of it. V. *Prime.* 1ſt. Shake ſome powder into the pan. 2d. Shut the pan with the three laſt fingers. 3d. Seize the ſmall of the butt with the above three fingers. VI. *Load.* 1ſt. Face to the left on both heels, ſo that the right toe may point directly to the foe, and the body be a very little faced to the left, bringing at the ſame time the firelock round to the left ſide without ſinking it. It ſhould, in this momentary poſition, be almoſt perpendicular, having the muzzle only a ſmall degree brought forward, and as ſoon as it is ſteady there, it muſt inſtantly be forced down within 2 inches of the ground, the butt nearly oppoſite the left heel, and the barrel itſelf ſomewhat ſloped, and directly to the front; the right hand at the ſame inſtant catches the muzzle, in order to ſteady it. 2d. Shake the powder into the barrel patting in after it the paper and ball. 3. Seize the top of the ramrod with the fore-finger and thumb. VII. *Draw the rods.* 1ſt. Force the ramrod half out, and ſeize it backhanded exactly in the middle. 2d. Draw it entirely out, and turning it with the whole hand and arm extended from you, put it one inch into the barrel. VIII. *Ram down Cartridge.* 1ſt. Puſh the ramrod down, holding it as before exactly in the middle till the hand touches the muzzle. 2d. Slip the fore-finger and thumb to the upper end, without letting the ramrod fall further into the barrel. 3d. Puſh the cartridge well down to the bottom. 4th. Strike it two very quick blows with the ramrod. 1ſt. Draw the ramrod half out, catching it backhanded. 2d. Draw it entirely out, turning it very briſkly from you, with the arm extended, and put it into the loops, forcing it as quick as poſſible to the bottom; then bring to the proper front, the finger and thumb of the right hand holding the ramrod, as in the poſition immediately previous to drawing it, and the butt raiſed two inches from the ground. Strike the top of the muzzle ſmartly with the right hand, in order to fix the bayonet, and ramrod, more firmly, and at the ſame time throw it nimbly up, in one motion, to the ſhoulder. N. B. Though the butts are not to come to the ground in caſe of a bout, as accidents may happen from it, yet they are permitted, while loading, to be ſo reſted; but it muſt be done without noiſe, and in a manner imperceptible in the front. EXPLANATION OF PRIMING AND LOADING QUICK. *Words of Command.* I. *Prime and Load.* 1ſt. Bring the eye to look down in one briſk motion to the priming poſition, the thumb of the right hand placed on the pan cover, or ſteel; the fingers clenched: and the elbow a little turned out, ſo that the wriſt may be clear of the cock. 2d. Open the pan by throwing up the ſteel, with a ſtrong motion of the right arm, turning the elbow in, and keeping the firelock ſteady in the left hand. 3d. Bring the right hand round to the pouch, and draw out the cartridge. The reſt as above deſcribed, except that, in the quick loading, all the motions muſt be done with as much diſpatch as poſſible. The ſoldiers taking their time, from the ſtuger in front. For *caſting over, and ſhouldering* only. The ſtamp three deep, the *priming poſition* for the firſt rank is the height of the waiſtband of the breeches: for the center rank, about the middle of the breaſt: and for the rear rank, cloſe to the cheek; the firelock, in all theſe poſitions, is to be

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pt perfectly horizontal. EXPLANATION OF THE OSITION OF EACH RANK IN THE FIRINGS. ont rank, kneeling. II. *Make ready.* Bring the cock briſkly up to the *recover*, catching it in e left hand; and, without ſtopping, ſink down th a quick motion upon the right knee, keep- the left foot faſt, the butt end of the firelock, the ſame moment, falling upon the ground; en cock, and inſtantly ſeize the cock and ſteel gether in the right hand, holding the piece firm the left, about the middle of that part which is tween the lock and the ſwell of the ſtock: the nt of the left thumb to be cloſe to the ſwell, l pointing upwards. As the body is ſinking, right knee is to be thrown ſo far back, that left leg may be right up and down, the right t a little turned out, the body ſtraight, and head as much up as if ſhouldered; the fire- k muſt be upright, and the butt about four hes to the right of the inſide of the left foot. . *Preſent.* Bring the firelock down firmly to the *ſent*, by ſliding the left hand, to the full extent the arm, along the ſling, without letting the otion fall;—the right hand at the ſame time inging up the butt by the cock ſo high againſt right ſhoulder, that the head may not be too ich lowered in taking aim; the right cheek to cloſe to the butt; the left eye ſhut, and the idle finger of the right hand on the trigger, look ng the barrel with the right eye from the breech to the muzzle, and remain ſteady. IV. *Fire.* ill the trigger ſtrong with the middle finger, d as ſoon as fired, ſpring up nimbly upon the t leg, keeping the body erect and the left foot ; and bringing the right heel to the hollow of left; at the ſame inſtant drop the firelock to priming poſition, the height of the waiſtband of breeches; *half cock; hand cartridge*, and go with loading motions, as before deſcribed. *rd rank.* I. *Make Ready.* Spring the firelock ſkly to the *recover;* as ſoon as the left hand es the firelock above the lock, raiſe the right ow a little, placing the thumb of that hand u- n the cock, with the fingers open on the plate the lock, and then, as quick as poſſible, cock piece, by dropping the elbow, and forcing rn the cock with the thumb, ſtep at the ſame e with the right foot a moderate pace to the ht, and keeping the left faſt, ſeize the ſmall of butt with the right hand: The piece muſt be d in this poſition perpendicular, and oppoſite left ſide of the face, the butt cloſe to the breaſt, not preſſed, the body ſtraight and full to the nt, and the head erect. II. *Preſent.* As in the going explanation for the front rank. III. e. Pull the trigger ſtrong with the middle fin- , and, as ſoon as fired, bring the firelock to priming poſition, about the height of the ſto- ch; the reſt, as in explanation of *priming* and *ding*—with this difference only, that the left t is to be drawn up to the right, at the ſame e that the firelock is brought down to the prim- poſition; and that, immediately after the fire- k is thrown up to the ſhoulder, the men ſpring the left again, and cover their file leaders. *ar Rank.* I. *Make Ready.* Recover and cock, before directed for the center rank, and as the lock is brought to the recover, ſtep briſkly to the right a full pace, at the ſame time placing the left heel about ſix inches before the point of the right foot.—The body to be kept ſtraight, and as ſquare to the front as poſſible. II. *Preſent.* As in explanation for the center rank, remembering only the difference of the priming poſition for this rank, as before deſcribed; after firing and ſhouldering, the men ſtep, as the centre rank does. III. *Fire.* In firing with the front rank *ſtanding*, that rank makes ready, &c. as ſpecified in the article relative to the *platoon exerciſe.* N. B. In giving words of command, as well in as out of the ranks, officers are to ſtand perfectly ſteady, and in their proper poſition; their ſwords held firmly in the full of the right hand, with the upper part of the blade reſting againſt the ſhoulder, the right wriſt againſt the hip, and the elbow drawn back. FIRING *by* PLATOONS. The officers, inſtead of giving the words, *platoon, make ready, preſent, fire*, are to pronounce the words ſhort, as for inſtance, *toon, ready, p'ent, fire.* In firing by platoons, or diviſions, the officers commanding them are to ſtep out one pace, on the cloſe of the *preparative*, and face to the left towards their men: They there ſtand perfectly ſteady till the leaſt part of the *general*, when they ſtep back again into their proper intervals, all at the ſame time.—After a diviſion has fired, the right hand man of it ſteps out one pace, in front of the officer, but ſtill keeping his own proper front, and gives the time for *caſting about* and *ſhouldering*, after which he falls back again into his place in the front. The flugel man of a battalion is alſo to keep his front, in giving the time of exerciſe. In firing by grand diviſions, the center officer falls back, on the *preparative*, into the fourth rank, and is replaced by the covering ſerjeant."

PLATS, *n. ſ.* in ſea language, the flat ropes, uſed to keep the cable from guiling. *Aſh.*

PLATTEN, a town of Bohemia, in Leitmeritz; 4 miles E. of Kamnitz.

PLATTENBURG, a town of Upper Saxony, in Prignitz; 4 miles E. of Wilſnack.

* PLATTER. *n. ſ.* [from *plate.*] A large diſh, generally of earth.—

The ſervants waſh the *platter.* *Dryden.*

—Satira is an adjective, to which lanx, a charger, or large *platter* is underſtood. *Dryden.*

(1.) PLATTSBURG, or } an extenſive town-
(1.) PLATTSBURGH, } ſhip of New York, in Clinton county, on the W. bank of Lake Champlain, about 300 miles N. of New York. In 1790, it contained 445 citizens, and 13 ſlaves. In 1796, 142 of the citizens were qualified to be electors.

(2.) PLATTSBURGH, the capital of the above townſhip, has a church, court-houſe, and gaol, with artiſts in almoſt every branch. Courts of Common Pleas, and general Seſſions, are held in it twice a year. It is 5 miles W. of Ticonderoga.

PLATZ, a town of Bohemia, in Bechin.

(1.) PLAU, a town of France, in the dep. of the Correze; 18 miles E. of Tulle.

(2.) PLAU, or PLAUEN, a town of Lower Saxony, in Mecklenburg, on the Plauer See, 15 miles E. of Parchim, and 32 S. of Roſtock.

* PLAUDIT. } *n. ſ.* [A word derived from
* PLAUDITE. } the Latin, *plaudite*, the demand

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mand of applauſe made by the player, when he left the ſtage.] Applauſe.—

True wiſdom muſt our actions ſo direct,
Not only the laſt *plaudit* to expect. *Denham.*

—Inſtead of a *plaudite*, ſhe would deſerve to be hiſſed off the ſtage. *More.*—Even theſe can diſcern muſick in a concert of *plaudites*, eulogies given themſelves. *Decay of Piety.*

(1.) PLAUEN, or } a town of Brandenburg,
(1.) PLAVEN, } with a manufacture of porcelain; 6 miles W. of Brandenburg.

(2.) PLAUEN, a lake near the above town, formed by the Havel, which runs by a canal into the Elbe.

(3—5.) PLAUEN, PLAVEN, or PLAWEN, a town of Mecklenburg, on a river and lake of the ſame name, which run into the Elbe; 17 miles S. of Guſtrow. Lon. 12. 13. E. Lat. 53. 40. N.

(6—7.) PLAUEN, or PLAWEN, two towns of Upper Saxony; 1. in Schwartzburg, on the Gera, 4 miles S. of Arnſtadt, and 16 NW. of Schwartzburg: In 1640, it was burnt by the Swedes: 2. in Vogtland, on the Elſter, with a cotton manufacture: 22 miles SW. of Zwickau, and 72 WSW. of Dreſden. Lon. 29. 52. E. Ferro. Lat. 50. 24. N.

(8.) PLAUEN. See PLAU, N° 2.

PLAUER SEE, a lake of Mecklenburg, E. of Plau, 20 miles in circumference.

PLAUSCHNITZ, a town of Bohemia, in Boleſlaw; 3 miles ESE. of Turnau.

* PLAUSIBILITY. *n. ſ.* [*plauſibilité*, Fr. from *plauſible*.] Speciouſneſs; ſuperficial appearance of right.—Two pamphlets, called the management of the war, are written with ſome *plauſibility*, much artifice, and direct falſehoods. *Swift.*—The laſt excuſe was allowed indeed to have more *plauſibility*, but leſs truth, than any of the former. *Swift.*

* PLAUSIBLE. *adj.* [*plauſible*, Fr. *plauſibilis*, from *plaudo*, Lat.] Such as gains approbation; ſuperficially pleaſing or taking; ſpecious; popular; right in appearance.—Go you to Angelo, anſwer his requiring with a *plauſible* obedience. *Shak.*—Judges ought to be more reverend than *plauſible*. *Bacon.*—They found that *plauſible* and popular pretext of raiſing an army to fetch in delinquents. *King Charles.*—Theſe were all *plauſible* and popular arguments. *Clarendon.*—No treachery ſo *plauſible*, as that which is covered with the robe of a guide. *L'Eſtrange.*—The caſe is doubtful, and may be diſputed with *plauſible* arguments on either ſide. *South.*

* PLAUSIBLENESS. *n. ſ.* [from *plauſible*.] Speciouſneſs; ſhow of right.—The *plauſibleneſs* of Arminianiſm, and the congruity it hath with the principles of corrupt nature. *Sanderſon.*—The notion of man's free will, and the nature of ſin bears with it a commendable plainneſs and *plauſibleneſs*. *More.*

* PLAUSIBLY. *adv.* [from *plauſible*.] 1. With fair ſhow; ſpeciouſly.—They could talk *plauſibly* about that they did not underſtand. *Collier.*—

Thou can'ſt *plauſibly* diſpute,
Supreme of ſeers, of angel, man and brute. *Prior.*

2. With applauſe. Not in uſe.—I hope they will *plauſibly* receive our attempts. *Brown.*

* PLAUSIVE. *adj.* [from *plaudo*, Lat.] 1. Applauding. 2. Plauſible. A word not in uſe.—

His *plauſive* words
He ſcatter'd not in ears. *Shak.*

PLAUTIUS. See PLOTIUS, N° 3.

PLAUTUS, Marcus ACCIUS, a comic writer of anciept Rome, born at Umbria, in Italy. He is ſaid to have acquired the AGNOMEN of *Plautus* from having *ſplay feet*. His parentage appears to have been mean; ſome ſay he was the ſon of a ſlave. Aulus Gellius ſays from Varro, that Plautus was ſo well paid for his plays, as to double his ſtock in trading, in which he loſt all he gained by the Muſes. He was reduced to work at a mill for his ſubſiſtence; but Varro adds, that his wit was his beſt ſupport, as he compoſed three of his plays during this drudgery. He died in the firſt year of the elder Cato's cenſorſhip, about A. U. C. 569, and A. A. C. 184. There are 20 of his plays extant, though not all entire. Five of his comedies have been elegantly tranſlated into Engliſh by Mr B. Thornton, and publiſhed in 2 vols 8vo, 1767.

PLAUZAT, a town of France, in the dep. of Puy de Dome; 10 miles S. of Clermont.

PLAWEN, or PLAVEN. See PLAUEN, N° 3—7.

(1.) * PLAY. *n. ſ.* 1. Action not intended; not work; diſmiſſion from work. 2. Amuſement, ſport.—

My darling and my joy;
For love of me leave off this dreadful *play*. *Spenſer.*

Two gentle fawns at *play*. *Milton.*

3. A drama; a comedy or tragedy, or any thing in which characters are repreſented by dialogue and action.—

Only they,
That come to hear a merry *play*,
Will be deceiv'd. *Shak.*

—A *play* ought to be a juſt image of human nature. *Dryden.*—

Viſits, *plays*, and powder'd beaux. *Swift.*

4. Game; practice of gaming; contest at a game.—

I did never win of you,
Nor ſhall not when my fancy's on my *play*. *Shak.*

5. Practice in any conteſt, as ſwordplay.—They find it the beſt of their *play* to put it off with a jeſt. *L'Eſtrange.*—He was reſolved not to ſee it diſtinctly, knowing his beſt *play* to be in the dark. *Tillotſon.*—The anſwer on his ſide makes it his *play* to diſtinguiſh as much as he can. *Locke.*—John naturally lov'd rough *play*. *Arbuthnot.* 6. Action; employment; office.—

The ſenſeleſs plea of right by providence
Can laſt no longer than the preſent ſway;
But juſtifies the next who comes in *play*. *Dryden.*

7. Practice; action; manner of acting: as fair and foul *play*.—Determining not to be far from the place where we appointed to meet, to prevent any foul *play* that might be offered unto us. *Sidney.* 8. Act of touching an inſtrument. 9. Irregular and wanton motion. 10. A ſtate of agitation or ventilation.—

Many have been ſav'd, and many may,

Who never heard this question brought in *play*. *Dryden.*

11. Room for motion.—The joints are let exactly into one another, that they have no *play* between them. *Moxon's Mechan. Exer.* 12. Liberty of acting; swing.—Should a writer give the full *play* to his mirth, without regard to decency, he might please readers; but must be a very ill man, if he could please himself. *Addison.*

(2.) PLAYS. See THEATRE.

(1.) * *To* PLAY. *v. n.* [*plegan*, Saxon.] 1. To sport; to frolick; to do something not as a task, but for a pleasure.—The people sat down to eat, and to drink, and rose up to *play*. *Exodus.*—

On smooth the seal and bended dolphins *play*. *Milton.*

Boys and girls come out to *play*. *Old Song.*

2. To toy; to act with levity.—

Wisdom thy sister and with her didst *play*. *Milton.*

Heavy whales in awkward measures *play*. *Pope.*

3. To be dismissed from work.—'Tis a *playing* day I see. *Shak.* 4. To trifle; to act wantonly and thoughtlessly.—Men are apt to *play* with their oaths and their lives. *Temple.* 5. To do something fanciful.—

How every fool can *play* upon the word! *Shak.*

6. To practise sarcastick merriment.—I would take use of it rather to *play* upon those I despised, than to trifle with those I loved. *Pope.* 7. To act; to practise illusion.—

Is it fancy *plays* upon our eye-sight? *Shak.*

8. To game; to contend at some game.—

Charles, I will *play* no more to-night. *Shak.*

When lenity and cruelty *play* for kingdoms, The gentler gamester is the soonest winner. *Shak.*

Are these the wretches that we *play'd* at dice for? *Shak.*

The clergyman *played* at whist. *Swift.*

9. To do any thing trickish or deceitful.—

His mother *played* false with a smith. *Shak.*

Thou *play'd'st* most foully for't. *Shak.*

Life is not long enough for a coquette to *play* her tricks in. *Spectator.* 10. To touch a musical instrument.—

Ev'ry thing that heard him *play*, Ev'n the billows of the sea Hung their heads, and then lay by. *Shak.*

One that hath a pleasant voice, and can *play* well on an instrument. *Ezekiel.*—Wherein doth the practice of singing and *playing* with instruments in our cathedral churches differ from the practice of David? *Peacham.*—

Clad like a country swain, he pip'd, he sung, And *playing* drove his jolly troop along. *Dryd.*

Take thy harp and melt thy maid; *Play*, my friend! and charm the charmer. *Granville.*

He applied the pipe to his lips, and began to play upon it. *Spectator.* 11. To operate; to act. Used of any thing in motion.—

John hath seiz'd Arthur, and it cannot be, That whilst warm life *plays* in that infant's veins, The misplac'd John should entertain One quiet breath of rest. *Shak.*

—My wife cried out fire, and you brought out your buckets, and called for engines to *play* against it. *Dryden.*—The heart beats, the blood circulates, the lungs *play*. *Cheyne.* 12. To wanton; to move irregularly —

The waving sedges *play* with wind. *Shak.*

This with exhilarating vapour bland About their spirits *play'd*. *Milton.*

In the streams that from the fountain *play*, She wash'd her face. *Dryden.*

The setting sun *Plays* on their shining arms. *Addison.*

Swords around him innocently *play*. *Pope.*

13. To personate a drama.—

A lord will hear you *play* to-night. *Shak.*

Ev'n kings but *play's*; and when their part is done, Some other, worse or better, mounts the throne. *Dryden.*

14. To represent a standing character.—

Courts are theatres, where some men *play*. *Donne.*

15. To act in any certain character.—Thus we *play* the fool with the time. *Shak.*—

Thou hast forc'd me, Out of thy honest truth to *play* the woman. *Shak.*

—She hath wrought folly to *play* the whore. *Deut.* xxii. 21.—Let us *play* the men for our people. 2 *Sam.* x. 12.—Alphonse, duke of Ferrara, delighted himself only in turning and *playing* the joiner. *Peacham.*—

'Tis possible these Turks may *play* the villains. *Denham.*

—A man has no pleasure in proving that he has *played* the fool. *Collier.*

(2.) * *To* PLAY. *v. a.* 1. To put in action or motion: as, he *played* his cannon; the engines are *played* at a fire. 2. To use an instrument of musick.—

He *plays* a tickling straw within his nose. *Gay.*

3. To act a mirthful character.—

Nature here Wanton'd as in her prime, and *play'd* at will. *Milton.*

4. To exhibit dramatically.—

Your honour's players hearing your amendment, Are come to *play* a pleasant comedy. *Shak.*

5. To act; to perform.—Doubt would fain have *played* his part in her mind. *Sidney.*

* PLAYBOOK. *n. s.* [*play* and *book*.] Book of dramatick compositions.—Your's was a match of common good liking, without any mixture of that ridiculous passion, which has no being but in *playbooks* and romances. *Swift.*

* PLAYDAY. *n. s* [*play* and *day*.] Day exempt from tasks or work.—

I thought the life of every lady Should be one continual *playday*. *Swift.*

* PLAYDEBT. *n. s.* [*play* and *debt*.] Debt contracted by gaming.—There are multitudes of leases upon single lives, and *playdebts* upon joint lives. *Arbuthnot.*—She has several *playdebts* on her hand,

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hand, which muſt be diſcharged very ſuddenly. *Spectator.*

* PLAYER. *n. ſ.* [from *play.*] 1. One who plays. 2. An idler; a lazy perſon.—

Players in your houſewifery. *Shak.*

3. Actor of dramatick ſcenes.—

Like *players* plac'd to fill a filthy ſtage. *Sidney.*

—Certain pantomimi will repreſent the voices of *players* of interludes ſo to the life, as you would think they were thoſe *players* themſelves. *Bacon.*—A *player*, if left of his auditory and their applauſe, would ſtrait be out of heart. *Bacon.*—

Thine be the laurel then, ſupport the ſtage;
Which ſo declines, that ſhortly we may ſee
Players and plays reduc'd to ſecond infancy. *Dryden.*

His muſe had ſtarv'd, had not a piece unread,
And by a *player* bought, ſupply'd her bread. *Dryden.*

4. A mimick.—

Thus ſaid the *player* god. *Dryden.*

5. One who touches a muſical inſtrument.—Seek out a man, who is a cunning *player* on the harp. 1 *Sam.* xvi. 16. 6. A gameſter. 7. One who acts in play in any certain manner.—The ſnake bit him faſt by the tongue, which therewith began ſo to rankle and ſwell, that, by the time he had knocked this foul *player* on the head, his mouth was ſcarce able to contain it. *Carew.*

* PLAYFELLOW. *n. ſ.* [*play* and *fellow.*] Companion in amuſement.—Never having a friend but *playfellows*, of whom, when he was weary, he could no otherwiſe rid himſelf than by killing them. *Sidney.*—

She ſeem'd ſtill back unto the land to look,
And her *playfellow's* aid to call. *Spenſer.*

Your precious ſelf had not then croſs'd the eyes
Of my young *playfellow*. *Shak.*

Heart's diſcontent and four affliction
Be *playfellows* to keep you company! *Shak.*

—This was the play at which Nero ſtaked 3229l. 3s. 4d. upon every caſt; where did he find *playfellows?* *Arbuthnot.*

* PLAYFUL. *adj.* [*play* and *full.*] Sportive; full of levity.—He is ſcandalized at youth for being lively, and at childhood for being *playful.* *Addiſon.*

* PLAYGAME. *n. ſ.* [*play* and *game.*] Play of children.—That liberty alone gives the true reliſh to their ordinary *playgames.* *Locke.*

(1.) * PLAYHOUSE. *n. ſ.* [*play* and *houſe.*] Houſe where dramatick performances are repreſented.—Theſe are the youths that thunder at a *playhouſe.* *Shak.*—He hurries me from the *playhouſe* and ſcenes there, to the bear-garden. *Stillingfleet.*—I am a ſufficient theatre to myſelf of ridiculous actions, without expecting company either in a court or *playhouſe.* *Dryden.*—

Shakeſpeare, whom you and ev'ry *playhouſe* bill
Stile the divine, the matchleſs, what you will,
For gain, not glory, wing'd his roving flight
And grew immortal in his own deſpight. *Pope.*

(2.) PLAY-HOUSE, See AMPHITHEATRE, and THEATRE.

* PLAYPLEASURE. *n. ſ.* [*play* and *pleaſure.*] Idle amuſement.—He taketh a kind of *playpleaſure* in looking upon the fortunes of others. *Bacon's Eſſays.*

* PLAYSOME. *adj.* [*play* and *ſome.*] Wanton; full of levity.

* PLAYSOMENESS. *n. ſ.* [from *playſome.*] Wantonneſs; levity.

* PLAYTHING. *n. ſ.* [*play* and *thing.*] Toy; thing to play with.—

O Caſtalio! thou haſt caught
My fooliſh heart; and like a tender child,
That truſts his *plaything* to another hand,
I fear its harm, and fain would have it back. *Otway.*

—A child knows his nurſe, and by degrees the *playthings* of a little more advanced age. *Locke.*—The ſervants ſhould be hindered from making court to them, by giving them fruit and *playthings.* *Locke.*—

Would fortune calm her preſent rage,
And give us *playthings* for our age. *Prior.*

Allow him but the *plaything* of a pen,
He ne'er rebels or plots like other men. *Pope.*

* PLAYWRIGHT. *n. ſ.* [*play* and *wright.*] A maker of plays.—Horace's rule for a play may as well be applied to him as a *playwright.* *Pope.*

(1.) * PLEA. *n. ſ.* [*plaid*, old French.] The act or form of pleading. 2. Thing offered or commanded in pleading.—

None can drive him from the envious *plea*
Of forfeiture of juſtice and his bond. *Shak.*

—Their reſpect of perſons was expreſſed in judicial proceſs, in giving raſh ſentence in favour of the rich, without ever ſtaying to hear the *plea*, or weigh the reaſons of the poor's cauſe. *Ecclesiast.*

3. Allegation.—

They tow'rds the throne ſupreme,
Accountable, made haſte, to make appear
With righteous *plea*, their utmoſt vigilance. *Milton.*

4. An apology; an excuſe.—

The fiend, with neceſſity,
The tyrant's *plea*, excus'd his deviliſh deeds. *Milton.*

Thou determin'ſt weakneſs for no *plea*. *Milton.*

No *plea* muſt ſerve; 'tis cruelty to ſpare. *Denham.*

—Whoever argues in defence of abſolute power in a ſingle perſon, though he offers the old plauſible *plea*, that, it is his opinion, which he cannot help, unleſs he be convinced, ought to be treated as the common enemy of mankind. *Swift.*

(II.) PLEA, in law, is what either party alleges for himſelf in court, in a cauſe there depending; and in a more reſtrained ſenſe, it is the defendant's anſwer to the plaintiff's declaration. Pleas are uſually divided into PLEAS OF THE CROWN and COMMON PLEAS.

1. PLEAS, COMMON, (ſays Judge Blackſtone) ſuch ſuits as are carried on between common perſons in civil caſes. Theſe are of two ſorts; *dilatory pleas*, and *pleas to the action.*

2. PLEAS, DILATORY, are ſuch as tend merely to delay or put off the ſuit, by queſtioning the propriety of the remedy, rather than by denying the injury: pleas to the action are ſuch as diſpute the

the very cauſe of ſuit. They are, 1. To the juriſdiction of the court; alleging, that it ought not to hold plea of this injury, it ariſing in Wales or beyond ſea; or becauſe the land in queſtion is of ancient demeſne, and ought only to be demanded in the lord's court, &c. 2. To the diſability of the plaintiff, by reaſon whereof he is incapable to commence or continue the ſuit; as, that he is an alien enemy, outlawed, excommunicated, attainted of treaſon or felony, under a præmunire, not *in rerum natura* (being only a fictitious perſon), an infant, a feme couvert, or a monk profeſſed. 3. In abatement: which abatement is either of the writ, or the count, for ſome defect in one of them; as by miſnaming the defendant, which is called a *miſnomer*; giving him a wrong addition, as eſquire inſtead of knight; or other want of form in any material reſpect. Or, it may be that the plaintiff is dead; for the death of either party is at once an abatement of the ſuit. Theſe pleas to the juriſdiction, to the diſability, or in abatement, were formerly very often uſed as mere dilatory pleas, without any foundation in truth, and calculated only for delay; but now by ſtat. 4 & 5 Ann. c. 16. no dilatory plea is to be admitted without affidavit made of the truth thereof, or ſome probable matter ſhown to the court to induce them to believe it true. And with reſpect to the pleas themſelves, it is a rule, that no exception ſhall be admitted againſt a declaration or writ, unleſs the defendant will in the ſame plea give the plaintiff a better; that is, ſhow him how it might be amended, that there may not be two objections upon the ſame account. All pleas to the juriſdiction conclude to the cognizance of the court; praying "judgement whether the court will have farther cognizance of the ſuit." Pleas to the diſability conclude to the perſon; by praying "judgment, if the ſaid A the plaintiff ought to be anſwered:" And pleas in abatement (when the ſuit is by original) conclude to the writ or declaration; by praying "judgement of the writ, or declaration, and that the ſame may be quaſhed," *ceſſet*, made void, or abated: but if the action be by bill, the plea muſt pray "judgement of the bill," and not of the declaration; the bill being the original, and the declaration only a copy of the bill. When theſe dilatory pleas are allowed, the cauſe is either diſmiſſed from that juriſdiction, or the plaintiff is ſtayed till his diſability be removed; or he is obliged to ſue out a new writ, by leave obtained from the court, or to amend and new-frame his declaration. But when, on the other hand, they are over-ruled as frivolous, the defendant has judgement of *reſpondeat ouſter*, to anſwer over in ſome better manner. It is then incumbent on him to plead.

4. PLEAS TO THE ACTION are to anſwer to the merits of the complaint. This is done by confeſſing or denying it. A confeſſion of the whole complaint is not very uſual; for then the defendant would probably end the matter ſooner, or not plead at all, but ſuffer judgement to go by default. Sometimes, after tender and refuſal of a debt, the creditor haraſſes his debtor with an action, then becomes neceſſary for the defendant to acknowledge the debt, and plead the tender; adding, that he has always been ready, *tout temps prift*, and is ſtill ready, *uncore prift*, to diſcharge it: for a tender by the debtor and refuſal by the creditor will in all caſes diſcharge the coſts, but not the debt itſelf; though in ſome particular caſes the creditor will totally loſe his money. But frequently the defendant confeſſes one part of the complaint (by a *cognovit actionem* in reſpect thereof), and traverſes or denies the reſt; in order to avoid the expence of carrying that part to a formal trial, which he has no ground to litigate. A ſpecies of this ſort of confeſſion is the *payment of money into court*: which is for the moſt part neceſſary upon pleading a tender, and is itſelf a kind of tender to the plaintiff; by paying into the hands of the proper officer of the court as much as the defendant acknowledges to be due, together with the coſts hitherto incurred, in order to prevent the expence of any farther proceedings. This may be done upon what is called a *motion*; which is an occaſional application to the court by the parties or their counſel, in order to obtain ſome rule or order of court, which becomes neceſſary in the progreſs of a cauſe; and it is uſually grounded upon an *affidavit* (the perfect tenſe of the verb *affido*), being a voluntary oath before ſome judge or officer of the court; to evince the truth of certain facts, upon which the motion is grounded: though no ſuch affidavit is neceſſary for payment of money into court. If, after the money is paid in, the plaintiff proceeds in his ſuit, it is at his own peril: for if he does not prove more due than is ſo paid into court, he ſhall be nonſuited and pay the defendant's coſts; but he ſhall ſtill have the money ſo paid in, for that the defendant has acknowledged to be his due. To this head may alſo be referred the practice of what is called a *ſet off*; whereby the defendant acknowledges the juſtice of the plaintiff's demand on the one hand; but on the other, ſets up a demand of his own, to counterbalance that of the plaintiff, either in the whole or in part; as, if the plaintiff ſues for L10. due on a note of hand, the defendant may ſet off L9. due to himſelf for merchandize ſold to the plaintiff; and, in caſe he pleads ſuch ſet-off, muſt pay the remaining balance into court. Pleas that totally deny the cauſe of complaint are either the general iſſue, or a ſpecial plea in bar. 1. The *general iſſue*, or general plea, is what traverſes, thwarts, and denies at once, the whole declaration, without offering any ſpecial matter whereby to evade it. As in treſpaſs either *vi et armis*, or on the caſe, "*non culpabilis*, not guilty;" in debt upon contract, "*nihil debet*, he owes nothing;" in debt on bond, "*non eſt factum*, it is not his deed;" on an *aſſumpſit*, "*non aſſumpſit*, he made no ſuch promiſe." Or in real actions, "*nul tort*, no wrong done; *nul diſſeiſin*, no diſſeiſin;" and in a writ of right, the miſe or iſſue is, that "the tenant has more right to hold than the demandant has to demand." Theſe pleas are called the *general iſſue*, becauſe, by importing an abſolute and general denial of what is alleged in the declaration, they amount at once to an iſſue; by which is meant a fact affirmed on one ſide and denied on the other. 2. *Special* pleas in bar of the plaintiff's demands are very various, according to the circumſtances of the defendant's caſe. As, in real actions, a general releaſe or a fine; both of which may deſtroy

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and bar the plaintiff's title. Or, in perſonal actions, an accord, arbitration, conditions performed, nonage of the defendant, or ſome other fact which precludes the plaintiff from his action. A *juſtification* is likewiſe a ſpecial plea in bar; as in actions of aſſault and battery, *ſon aſſault demeſne*, that it was the plaintiff's own original aſſault; in treſpaſs, that the defendant did the thing complained of in right of ſome office which warranted him ſo to do; or, in an action of ſlander, that the plaintiff is really as bad a man as the defendant ſaid he was. Alſo a man may plead the ſtatutes of limitation in bar; or the time limited by certain acts of parliament, beyond which no plaintiff can lay his cauſe of action. This, by the ſtatute of 32 Hen. VIII. c. 2. in a writ of right is 60 years: in aſſiſes, writs of entry, or other poſſeſſory actions real, of the ſeiſin of one's anceſtors in lands; and either of their ſeiſin, or one's own, in rents, ſuits, and ſervices, 50 years: and in actions real for lands grounded upon one's own ſeiſin or poſſeſſion, ſuch poſſeſſion muſt have been within 30 years. By ſtat. 1 Mar. ſt. 2. c. 5. this limitation does not extend to any ſuit for avowſons. But by ſtat. 21 Jac. I. c. 2. a time of limitation was extended to the caſe of the king; viz. 60 years precedent to 19th Feb. 1623: but this becoming ineffectual by efflux of time, the ſame date of limitation was fixed by ſtat. 9 Geo. III. c. 16. to commence and be reckoned backwards, from the time of bringing any ſuit or other proceſs to recover the thing in queſtion; ſo that a poſſeſſion for 60 years is now a bar even againſt the prerogative, in derogation of the ancient maxim, *Nullum tempus occur it regi*. By another ſtatute, 21 Jac. I. c. 16 20 years is the time of limitation in any writ of formedon: and, by a conſequence, 20 years is alſo the limitation in every action of ejectment; for no ejectment can be brought, unleſs where the leſſor of the plaintiff is entitled to enter on the lands, and by ſtat. 21 Jac. I. c. 16. no entry can be made by any man, unleſs within 20 years after his right ſhall accrue. Alſo all actions of treſpaſs (*quare clauſum fregit*, or otherwiſe), detinue, trover, replevin, account, and caſe (except upon accounts between merchants), debt on ſimple contract, or for arrears of rent, are limited by the ſtatute laſt mentioned to ſix years after the cauſe of action commenced: and actions of aſſault, menace, battery, mayhem, and impriſonment, muſt be brought within four years, and actions for words two years, after the injury committed. and by ſtat. 31 Eliz. c. 5. all ſuits, indictments, and informations, upon any penal ſtatutes, where any forfeiture is to the crown, ſhall be ſued within two years, and where the forfeiture is to a ſubject, within one year, after the offence committed, unleſs where any other time is ſpecially limited by the ſtatute. Laſtly, by ſtat. 10 W. III. c. 14. no writ of error, *ſcire facias*, or other ſuit, ſhall be brought to reverſe any judgment, fine, or recovery, for error, unleſs it be proſecuted within 20 years. The uſe of theſe ſtatutes of limitation is to preſerve the peace of the kingdom, and to prevent thoſe innumerable perjuries which might enſue if a man were allowed to bring an action for any injury committed at any diſtance of time. Upon both theſe accounts the law therefore holds, that *intereſt reipublicæ ut ſit finis litium*: and upon the ſame principle the Athenian laws in general prohibited all actions where the injury was committed five years before the complaint was made: if therefore, in any ſuit, the injury or cauſe of action, happened earlier than the period expreſſly limited by law, the defendant may plead the ſtatutes of limitations in bar: as upon an aſſumpſit or promiſe to pay money to the plaintiff, the defendant may plead, *Non aſſumpſit infra ſex annos*. He made no ſuch promiſe within ſix years; which is an effectual bar to the complaint. An eſtoppel is likewiſe a ſpecial plea in bar; which happens where a man hath done ſome act, or executed ſome deed, which eſtops or precludes him from averring any thing to the contrary. As if a tenant for years (who hath no freehold) levies a fine to another perſon. Tho' this is void as to paſſing, yet it ſhall work as an eſtoppel to the cognizor, for, if he afterwards brings an action to recover theſe lands, and his fine is pleaded againſt him, he ſhall thereby be eſtopped from ſaying, that he had no freehold at the time, and therefore was incapable of levying it. The conditions and qualities of a plea (which, as well as the doctrine of eſtoppels will alſo hold equally, *mutatis mutandis*, with regard to other parts of pleading), are, 1. That it be ſingle and containing only one matter: for duplicity begets confuſion. But by ſtat. 4 Ann. c. 16. a man, with leave of the court, may plead two or more diſtinct matters or ſingle pleas; as in an action of aſſault and battery, the firſt, Not guilty, *ſon aſſault demeſne*, and the ſtatute of limitations. 2. That it be direct and poſitive, and not argumentative. 3. That it have convenient certainty of time, place, and perſons. 4. That it anſwer the plaintiff's allegations in every material point. 5. That it be ſo pleaded as to be capable of trial. Special pleas are uſually in the affirmative, ſometimes in the negative, but they always advance ſome new fact not mentioned in the declaration; and then they muſt be averred to be true in the common form:—"And this he is ready to verify."—This is not neceſſary in pleas of the general iſſue, thoſe always containing a total denial of the facts before advanced by the other party, and therefore putting him upon the proof of them. See PLEADINGS, § 2.

ii. PLEAS OF THE CROWN are all ſuits in the king's name, or in the name of the attorney-general in behalf of the king, for offences committed againſt his crown and dignity, and againſt his peace; as treaſon, murder, felony, &c. See ARRAIGNMENT.

(III.) PLEA TO INDICTMENT, the defenſive matter alleged by a criminal on his indictment. (See ARRAIGNMENT.) This is either, 1. A plea to the juriſdiction; 2. A demurrer; 3. A plea in abatement; 4. A ſpecial plea in bar; or, 5. The general iſſue. 1. A plea to the *juriſdiction*, is where an indictment is taken before a court that has no cognizance of the offence; as if a man be indicted for a rape at the ſheriff's tourn, or a murder at the quarter-ſeſſions: in theſe or ſimilar caſes, he may except to the juriſdiction of the court without anſwering at all to the crime alleged. 2. A *demurrer* to the indictment, is incident to criminal cauſes, as well as civil, when the fact as alleged

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owed to be true, but the prisoner joins issue upon some point of law in the indictment by which insists, that the fact, as stated, is no felony, ason, or whatever the crime is alleged to be. us, for instance, if a man be indicted for felonously stealing a greyhound; which is an animal which no valuable property can be had, and therefore it is not felony, but only a civil trespass to it; in this case the party indicted may demur the indictment; denying it to be felony, tho' confesses the act of taking it. Some have held, t if, on demurrer, the point of law be adjudged against the prisoner, he shall have judgment d execution, as if convicted by verdict. But s is denied by others, who hold, that in such e he shall be directed and received to plead the neral issue, Not guilty, after a demurrer determined against him. Which appears the more reasonable, because it is clear, that if the prisoner ely discovers the fact in court, and refers it to court whether it be felony or no; and upon fact thus shown, it appears to be felony, the urt will not record the confession, but admit n afterwards to plead not guilty. And this ms to be a case of the same nature, being for most part a mistake in point of law, and in the nduct of his pleading; and, though a man by spleading may in some cases lose his property, the law will not suffer him by such niceties to e his life. However, upon this doubt, demurrers indictments are seldom used: since the same advantages may be taken upon a plea of not guilty; or erwards in arrest of judgment, when the verdict established the fact. III. A plea in *abatement* principally for a *misnomer*, a wrong name, or a se addition to the prisoner. As, if James Allen, ntleman, is indicted by the name of *John Allen, ire*, he may plead that he has the name of *mes*, and not of *John*; and that he is a *gentlen*, and not an *esquire*. And, if either fact is und by a jury, then the indictment shall be aed, as writs and declarations may be in civil tions. But, in the end, there is little advantage rning to the prisoner by means of these dilato pleas: because, if the exception be allowed, a w bill of indictment may be framed, according what the prisoner in his plea avers to be his ue name and addition. For it is a rule, upon pleas in abatement, that he who takes advange of a flaw, must at the same time show how may be amended. Let us therefore next conder a more substantial kind of plea, viz. IV. pecial pleas in *bar*; which go to the merits of e indictment, and give a reason why the prisonought not to answer it at all, nor put himself pon his trial for the crime alleged. These are 4 kinds: a former acquittal, a former convicon, a former attainder, or a pardon. There are any other pleas which may be pleaded in bar of appeal: but these are applicable to both apeals and indictments. 1. First, the plea of *autrefoits acquit*, or a former acquittal, is grounded n this universal maxim of the common law of ngland, that no man is to be brought into jeardy of his life, more than once, for the same ffence. And hence it is allowed as a consequence, hat when a man is once fairly found not guilty pon any indictment, or other prosecution, before any court having competent jurisdiction of the offence, he may plead such acquittal in bar of any subsequent accusation for the same crime. 2. Secondly, the plea of *autrefoits convict*, or a former conviction for the same identical crime, tho' no judgment was ever given, or perhaps will be, (being suspended by the benefit of clergy or other causes,) is a good plea in bar to an indictment. And this depends upon the same principle as the former, that no man ought to be twice brought in danger of his life for one and the same crime. 3. Thirdly, the plea of *autrefoits attaint*, or a former attainder, is a good plea in bar, whether it be for the same or any other felony. For wherever a man is attainted of felony, by judgment of death either upon a verdict or confession, by outlawry, or heretofore by abjuration, and whether upon an appeal or an indictment; he may plead such attainder in bar to any subsequent indictment or appeal, for the same or for any other felony. And this because, generally, such proceeding on a second prosecution cannot be to any purpose; for the prisoner is dead in law by the first attainder, his blood is already corrupted, and he hath forfeited all that he had: so that it is absurd and superfluous to endeavour to attaint him a second time. Tho' to this general rule, as to all others, there are some exceptions; wherein, *cessante ratione, cessat et ipsa lex*. 4. Lastly, a pardon may be pleaded in bar; as at once destroying the end and purpose of the indictment, by remitting that punishment, which the prosecution is calculated to inflict. There is one advantage that attends pleading a pardon in bar, or in arrest of judgment, before sentence is past; which it gives by much the preference to pleading it after sentence or attainder. This is, that by stopping the judgment it stops the attainder, and prevents the corruption of the blood: which, when once corrupted by attainder, cannot afterwards be restored otherwise than by act of parliament. V. The *general issue*, or plea of not guilty, upon which plea alone the prisoner can receive his final judgment of death. In case of an indictment of felony or treason, there can be no special justification put in by way of plea. As, on an indictment for murder, a man cannot plead that it was in his own defence against a robber on the highway, or a burglar; but he must plead the general issue, Not guilty, and give this special matter in evidence. For (besides that these pleas do in effect amount to the general issue; since, if true, the prisoner is most clearly not guilty) as the facts in treason are laid to be done *proditorie et contra ligeantiæ suæ debitum*; and, in felony, that the killing was done *felonice*; these charges, of a traiterous or felonious intent, are the points and very *gist* of the indictment, and must be answered directly, by the general negative, *Not guilty*; and the jury upon the evidence will take notice of any defensive matter, and give their verdict accordingly as effectually as if it were or could be specially pleaded. So that this is, upon all accounts, the most advantageous plea for the prisoner. When the prisoner hath thus pleaded not guilty, *non culpabilis*, or *nient culpable*: which was formerly used to be abbreviated upon the minutes, thus, *Non* (or *nient*) *cul.* the clerk of the assize, or clerk of arraigns, on behalf of the crown repeats, that

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that the prisoner is guilty, and that he is ready to prove him so. This is done by two monosyllables in the same spirit of abbreviation *cul. prit.*: which signifies first that the prisoner is guilty; (*cul. culpable*, or *culpabilis*;) and then that the king is ready to prove him so. (*prit*, *præsto sum*, or *paratus*, *verificare*.) By this replication the king and the prisoner are therefore at issue: for when the parties come to a fact which is affirmed on one side and denied on the other, when they are said to be *at issue* in point of fact: which is evidently the case here, in the plea of *non cul.* by the prisoner; and the replication of *cul. prit*: which afterwards the ignorance of succeeding clerks adopted for the very words to be by them spoken: as the ignorance of the criers has led them to abuse two old French terms; viz. *Oyez*, i. e. *Hear ye!* which they commonly pronounce most absurdly *O Yes!* and *Countez*, when a jury are sworn, instead of which the officer says *Count these*. But however it may have arisen, the joining of issue seems to be clearly the meaning of this obscure expression; which has puzzled our most ingenious etymologists; and is commonly understood as if the clerk of the arraigns, immediately on plea pleaded, had fixed an opprobrious name on the prisoner, by asking him, "*culprit*, how wilt thou be tried?" for immediately upon issue joined it is inquired of the prisoner, by what trial he will make his innocence appear. This form has at present reference to appeals and approvements only, wherein the appellee has his choice, either to try the accusation by BATTEL or by JURY. But upon indictments, since the abolition of ORDEAL, there can be no other trial but by jury, *per pais*, or by the country: and therefore, if the prisoner refuses to put himself upon the inquest in the usual form, that is, to answer that he will be tried by God and the country, if a commoner; and, if a peer, by God and his peers; the indictment, if in treason, is taken *pro confesso*; and the prisoner, in cases of felony, is judged to stand mute, and, if he perseveres in his obstinacy, shall now be convicted of the felony. When the prisoner has thus put himself upon his trial, the clerk answers in the humane language of the law, which always hopes that the party's innocence rather than his guilt may appear, "God send thee a good deliverance." And then they proceed, as soon as conveniently may be, to the trial. See TRIAL.

* *To* PLEACH. *v. a.* [*plesser*, Fr.] To bend; to interweave. A word not in use.—

Would'st thou be window'd in great Rome, and see
Thy master thus, with *pleacht* arms, bending down
His corrigible neck? *Shak.*
Steal into the *pleached* bower. *Shak.*

(1.) * *To* PLEAD. *v. n.* [*plaider*, Fr.] 1. To argue before a court of justice.—

To his accusations
He *pleaded* still not guilty. *Shak.*

—O that one might *plead* for a man with God, as a man *pleadeth* for his neighbour. *Job*, xvi. 21.—

Let others govern or defend the state,
Plead at the bar or manage a debate. *Granv.*

—Lawyers and divines write down short notes to preach or *plead*. *Watts*. 2. To speak in an argumentative or persuasive way for or against; to reason with another.—

To *plead* for that, which I would not obtain. *Shak.*

—Who is he that will *plead* with me? *Job.*—

If nature *plead* not in a parent's heart,
Pity my tears, and pity her desert. *Dryden.*

—It must be no ordinary way of reasoning, and a man that is *pleading* for the natural power of kings. *Locke*. 3. To be offered as a plea.—

Since you can love, and yet your error see,
The same resistless power may *plead* for me. *Dryden.*

(2.) * *To* PLEAD. *v. a.* 1. To defend; to excuse.—

Our swords shall *plead* it in the field. *Shak.*

2. To allege in pleading or argument.—They could not justly *plead* law of nations, for they were not lawful enemies. *Spenser*.—They will *plead* against me thy reproach. *Job*, xix. 5. 3. To offer as an excuse.—I will neither *plead* my age nor sickness, in excuse of faults. *Dryden.*

* PLEADABLE. *adj.* [from *plead*.] Capable to be alleged in plea.—This privilege is *pleadable* at law. *Dryden.*

* PLEADER. *n. s.* [*plaideur*, Fr. from *plead*.] 1. One who argues in a court of justice.—

The brief with weighty crimes was charg'd,
On which the *pleader* much enlarg'd. *Swift.*

2. One who speaks for or against.—

If you
Would be your country's *pleader*, your good tongue
Might stop our countryman. *Shak.*
So fair a *pleader* any cause may gain. *Dryd.*

(1.) * PLEADING. *n. s.* [from *plead*.] Act or form of pleading.—

If the heavenly folk should know
These *pleadings* in the court below. *Swift.*

(2.) PLEADINGS, in law, are the mutual allegations between the plaintiff and defendant. (See PROCESS, SUIT, and WRIT.) They form the third part or stage of a fact; and at present are set down and delivered into the proper office in writing, though formerly they were usually put in by their council *ore tenus*, or viva voce, in court, and then minuted down by the chief clerks or prothonotaries; whence, in old law French the pleadings are frequently denominated the *rol*. The first of these is the *declaration*, *narration*, or *count*, anciently called the *tale*; in which the plaintiff sets forth his cause of complaint at length, being indeed only an amplification or exposition of the original writ upon which his action is founded, with the additional circumstances of time and place, when and where, the injury was committed. In *local* actions, (says judge Blackstone) where the possession of land is to be recovered,

vered, or damages for an actual treſpaſs, or for ıſte, &c. affecting land, the plaintiff muſt lay his claration or declare his injury to have happen- in the very county and place that it really did ppen; but in *tranſitory* actions, for injuries that ght have happened anywhere, as debt, detinue, ıder, and the like, the plaintiff may declare in ıat county he pleaſes, and then the trial muſt in that county in which the declaration is laid. ough, if the defendant will make affidavit that cauſe of action, if any, aroſe not in that but ther county, the court will direct a change of *venue* or *viſne* (that is, the *vicinia* or neigh- rhood in which the injury is declared to be ne), and will oblige the plaintiff to declare in proper county. For the ſtatute 6 Ric. II. c. aving ordered all writs to be laid in their pro- counties, this, as the judges conceived, im- vered them to change the *venue*, if required, not to inſiſt rigidly on abating the writ: ich practice began in the reign of James I. d this power is diſcretionally exerciſed, ſo as to cauſe but prevent a defect of juſtice. efore the court will not change the *venue* to of the four northern counties previous to the ng circuit; becauſe there the aſſizes are hol- only once a-year, at the time of ſummer cir- t. And it will ſometimes remove the *venue* n the proper juriſdiction (eſpecially of the nar- and limited kind), upon a ſuggeſtion, duly ported, that a fair and impartial trial cannot had therein. It is generally uſual, in actions on the caſe, to ſet forth ſeveral caſes, by differ- counts in the ſame declaration; ſo that if the ntiff fails in the proof of one, he may ſucceed nother. As in an action on the caſe upon an UMPSIT for goods ſold and delivered, the ntiff uſually counts or declares, firſt, upon a ed and agreed price between him and the de- ant; as, that they bargained for 20l.: and he ſhould fail in the proof of this, he counts wiſe upon a *quantum valebant*; that the de- ant bought other goods, and agreed to pay ſo much as they were reaſonably worth: and avers that they were worth other 20l. and ſo n 3 or 4 different ſhapes; and at laſt concludes declaring, that the defendant had refuſed ainſt any of theſe agreements, whereby he is amaged to ſuch a value. And if he proves the laid in any one of his counts, though he fails e reſt, he ſhall recover proportionable dama-

This declaration always concludes with e words, "and thereupon he brings ſuit," &c. *producit ſectam, &c.* By which words, *ſuit* or *(a ſequendo)* were anciently underſtood the ſelfes or followers of the plaintiff. For in for- times, the law would not put the defendant he trouble of anſwering the charge till the ntiff had made out at leaſt a probable caſe, the actual production of the *ſuit, ſecta*, or *fol- rs*, is now antiquated, and hath been totally ſed, ever ſince the reign of Edward III. though form ſtill continues. At the end of the de- ation are added alſo the plaintiff's common lges of proſecution, John Doe and Richard ; which, as elſewhere obſerved, (See WRIT), now mere names of form; though formerly were of uſe to anſwer to the king for the amercement of the plaintiff, in caſe he were non- ſuited, barred of his action, or had a verdict and judgment againſt him. For if the plaintiff neglects to deliver a declaration for two terms after the defendant appears, or is guilty of other delays or defaults againſt the rules of law in any ſubſequent ſtage of the action, he is adjudged not to follow or purſue his remedy as he ought to do; and thereupon a *nonſuit*, or *non proſequitur*, is entered, and he is ſaid to be *non-proſ'd*. And for thus deſerting his complaint, after making a falſe claim or complaint *(pro falſo clamore ſuo)*, he ſhall not only pay coſts to the defendant, but is liable to be amerced to the king. A *retraxit* differs from a nonſuit, in that the one is negative and the other poſitive: the nonſuit is a default and neglect of the plaintiff, and therefore he is allowed to begin his ſuit again upon payment of coſts; but a *retraxit* is an open and voluntary renunciation of his ſuit in court; and by this he for ever loſes his action. A *diſcontinuance* is ſomewhat ſimilar to a nonſuit; for when a plaintiff leaves a chaſm in the proceedings of his cauſe, as by not continuing the proceſs regularly from day to day, and time to time, as he ought to do, the ſuit is diſcontinued, and the defendant is no longer bound to attend; but the plaintiff muſt begin again, by ſuing out a new original, uſually paying coſts to his antagoniſt. When the plaintiff hath ſtated his caſe in the declaration, it is incumbent on the defendant, within a reaſonable time, to make his defence, and to put in a plea; or elſe the plaintiff will at once recover judgment by *default*, or *nihil dicit*, of the defendant. Defence, in its true legal ſenſe, ſignifies not a juſtification, protection, or guard, which is now its popular ſignification; but merely an *oppoſing* or *denial* (from the French verb *defendre*) of the truth or validity of the complaint. It is the *conteſtatio litis* of the civilians: a general aſſertion that the plaintiff hath no ground of action; which aſſertion is afterwards extended and maintained in his plea. Before defence made, if at all, cognizance of the ſuit muſt be claimed or demanded; when any perſon or body corporate hath the franchiſe, not only of holding pleas within a particular limited juriſdiction, but alſo of the cognizance of pleas; and that either without any words excluſive of other courts, which entitles the lord of the franchiſe, whenever any ſuit that belongs to his juriſdiction is commenced in the courts of Weſtminſter, to demand the cognizance thereof; or with ſuch excluſive words, which alſo entitle the defendant to plead to the juriſdiction of the court. Upon this claim of cognizance, if allowed, all proceedings ſhall ceaſe in the ſuperior court, and the plaintiff is left at liberty to purſue his remedy in the ſpecial juriſdiction. As, when a ſcholar or other privileged perſon of the univerſities of Oxford or Cambridge is impleaded in the courts at Weſtminſter, for any cauſe of action whatſoever, unleſs upon a queſtion of freehold. In theſe caſes, by the charter of thoſe learned bodies, confirmed by act of parliament, the chancellor, or vice-chancellor, may put in a claim of cognizance; which, if made in due time and form, and with due proof of the facts alleged, is regularly allowed by the courts. It muſt be demanded before full defence is made

or

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of imparlance prayed; for these are a submission to the jurisdiction of the superior court, and the delay is the *laches* in the lord of the franchise: and it will not be allowed if it occasions a failure of justice, or if an action be brought against the person himself who claims the franchise, unless he hath also a power in such case of making another judge. After defence made, the defendant must put in his plea. But before he defends, if the suit is commenced by *capias* or *latitat*, without any special original, he is entitled to demand one *imparlance*, or *licentia loquendi*; and may, before he pleads, have more granted by consent of the court, to see if he can end the matter amicably without farther suit, by talking with the plaintiff: a practice which is supposed to have arisen from a principle of religion, in obedience to that precept of the gospel, "agree with thine adversary quickly, whilst thou art *in the way* with him." And it may be observed that this gospel precept has a plain reference to the Roman law of the XII. tables, which expressly directed the plaintiff and defendant to make up the matter while they were in the way, or going to the prætor; *in via remuti parent orato*. There are also many other previous steps which may be taken by a defendant before he puts in his plea. He may, in real actions, demand a view of the thing in question, to ascertain its identity and other circumstances. He may crave *oyer* of the writ, or of the bond, or other specialty upon which the action is brought; that is, to hear it read to him; the generality of defendants in the times of ancient simplicity being supposed incapable to read it themselves: whereupon the whole is entered *verbatim* upon the record; and the defendant may take advantage of any condition, or other part of it, not stated in the plaintiff's declaration. In real actions also the tenant may pray in *aid*, or call for the assistance of another, to help him to plead, because of the feebleness or imbecility of his own estate. Thus a tenant for life may pray in aid of him that hath the inheritance in remainder or reversion; and an incumbent may pray in aid of the patron and ordinary; that is, that they shall be joined in the action, and help to defend the title. *Voucher* also is the calling in of some person to answer the action, that hath warranted the title to the tenant or defendant. This is made still use of in the form of common recoveries, which are grounded on the writ of entry; a species of action that relies chiefly on the weakness of the tenant's title, who therefore vouches another person to warrant it. If the vouchee appears, he is made defendant instead of the voucher; but if he afterwards makes default, recovery shall be had against the original defendant; and he shall recover an equivalent in value against the deficient vouchee. In assizes, indeed, where the principal question is, whether the demandant or his ancestors were or were not in possession till the ouster happened, and the title of the tenant is little (if at all) discussed, there no voucher is allowed; but the tenant may bring a writ of *warrantia chartæ* against the warrantor, to compel him to assist him with a good plea or defence, or else to render damages and the value of the land, if recovered against the tenant. In many real actions also, brought by or against an infant under the age of 21 years, and also in actions of debt brought against him, as heir to any deceased ancestor, either party may suggest the nonage of the infant, and pray that the proceedings may be deferred till his full age, or, in the legal phrase, that the infant may have his age, and that the *parol may demur*, that is, that the pleadings may be staid; and then they shall not proceed till his full age, unless it be apparent that he cannot be prejudiced thereby. But by the statutes of Westm. 1. 3. Edw. I. c. 46. and of Gloucester, 6 Edw. I. c. 2. in writs of entry *sur disseisin* in some particular cases, and in actions of debt brought by an infant, the parol shall not demur; otherwise he might be deforced of his whole property, and even want a maintenance, till he came of age. So likewise in a writ of dower the infant shall not have his age; for it is necessary that the widow's claim be immediately determined, lest she may want a present subsistence. Nor shall an infant patron have it in a *quare impedit*, since the law holds it necessary and expedient that the church be immediately filled. When the several preceedings are over, the defendant must then put in his excuse or plea. See PLEA. No man is at liberty to plead specially such a plea as amounts only to the general issue, or a total denial of the charge; but in such case he must plead the general issue in terms, whereby the whole question is referred to a jury. But if the defendant, in an action or action of trespass, wish to refer the validity of his title to the court rather than the jury, he may state his title specially; and give colour to the plaintiff, or suppose him to have an appearance of colour of title. As if his own true title is, that he claims by feoffment with livery from A, by force of which he entered on the lands in question, he cannot plead this by itself, as it amounts to no more than the general issue. But he may allege this specially, provided he goes further, and says that the plaintiff claiming by colour of a pretended deed of feoffment, without livery, entered upon whom he entered; and may then refer to the judgment of the court which of these two titles is the best in point of law. When the plea of the defendant is thus put in, if it does not amount to a total contradiction of the declaration, but only evades it, the plaintiff may plead again, and reply to the defendant's plea: Either traversing it, or totally denying it; as if, on an action of debt on a bond, the defendant pleads *solvit ad diem*, that he paid the money when due; here the plaintiff in his replication may totally traverse this plea, by denying that the defendant paid it: Or he may allege new matter in contradiction to the defendant's plea; as when the defendant pleads an award made, the plaintiff may reply, and set forth an actual award, and assign a breach: Or the replication may confess and avoid the plea, by alleging new matter or distinction; as in an action for trespassing upon land whereof the plaintiff is seised, if the defendant shows a title to the land by descent, and that therefore he had a right to enter, and gives colour to the plaintiff, the plaintiff may either traverse and totally deny the title to the descent; or he may confess and avoid it, by replying, that true it is that such descent happened, but that since the descent the defendant

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f demiſed the lands to the plaintiff for term of
e. To the replication the defendant may *rejoin*,
put in an anſwer called a *rejoinder*. The plain-
f may anſwer the rejoinder by a *ſur-rejoinder*;
on which the defendant may *rebut*, and the
intiff anſwer him by a *ſur-rebutter*. Which
as, replications, rejoinders, ſur-rejoinders, re-
tters, and ſur-rebutters, anſwer to the *exceptio*,
plicatio, *duplicatio*, *triplicatio*, and *quadruplicatio*,
the Roman laws. The whole of this proceſs is
nominated the *pleading*; in the ſeveral ſtages of
ich it muſt be carefully obſerved, not to depart
vary from the title or defence which the party
once inſiſted on. For this (which is called a
arture in pleading) might occaſion endleſs al-
cation. Therefore the replication muſt ſupport the declaration, and the rejoinder muſt ſupport the plea, without departing out of it. As in
caſe of pleading no award made in conſe-
nce of a bond of arbitration, to which the plain-
replies, ſetting forth an actual award; now
defendant cannot rejoin that he hath perform-
this award, for ſuch rejoinder would be an en-
departure from his original plea, which alleg-
that no ſuch award was made: therefore he
now no other choice, but to traverſe the fact
the replication, or elſe to demur upon the law
it. Again, every plea muſt be ſimple, entire,
nected, and confined to one ſingle point: it
ld never be entangled with a variety of diſtinct
ependent anſwers to the ſame matter; which
ld require as many different replies, and introce a multitude of iſſues upon one and the ſame
pute. For this would oft n embarraſs the
y, and ſometimes the court itſelf, and at all e-
nts would greatly enhance the expence of the
ties. Yet it frequently is expedient to plead
ſuch a manner as to avoid any implied admiſ-
n of a fact which cannot with propriety or ſafe-
be poſitively affirmed or denied. And this may
done by what is called a *proteſtation*; whereby
party interpoſes an oblique allegation or de-
l of ſome fact, proteſting that ſuch a matter
es or does not exiſt; and at the ſame time
oiding a direct affirmation or denial. Sir Ed-
rd Coke hath defined a proteſtation to be, "an
luſion of a concluſion." For the uſe of it is,
ave the party from being concluded with re-
ct to ſome fact or circumſtance which cannot
directly affirmed or denied without falling into
olicity of pleading; and which yet, if he did
thus enter his proteſt, he might be deemed to
e tacitly waved or admitted. So if a defen-
t, by way of inducement to the point of his
ence, alleges a particular mode of ſeiſin or te-
e which the plaintiff is unwilling to admit, and
deſires to take iſſue on the principal point of
defence, he muſt deny the ſeiſin or tenure by
r of proteſtation, and then traverſe the defen-
matter. So, laſtly, if an award be ſet forth
the plaintiff, and he can aſſign a breach in one
t of it, and yet is afraid to admit the performe of the reſt of the award, or to aver in gene-
a non-performance of any part of it, leſt ſome-
ng ſhould appear to have been performed; he
y ſave to himſelf any advantage he might here-
r make of the general non-performance, by al-

leging that by proteſtation, he can plead only the non-payment of the money. In any ſtage of the pleadings, when either ſide advances or affirms any new matter, he uſually avers it to be true; "and this he is ready to verify." On the other hand, when either ſide traverſes or denies the facts pleaded by his antagoniſt, he uſually tenders an *iſſue*, as it is called; the language of which is different according to the party by whom it is tendered: for if the traverſe or denial comes from the defendant, the iſſue is tendered in this manner, "And of this he puts himſelf upon the country," thereby ſubmitting himſelf to the judgment of his peers: but if the traverſe lies upon the plaintiff, he tenders the iſſue or prays the judgment of the peers againſt the defendant in another form; thus, "and this he prays may be inquired of by the country." But if either ſide pleads a ſpecial negative plea, not traverſing or denying any thing that was before alleged, but diſcloſing ſome new negative matter; as where the ſuit is on a bond conditioned to perform an award, and the defendant pleads, negatively, that no award was made; he tenders no iſſue upon this plea, becauſe it does not yet appear whether the fact will be diſputed, the plaintiff not having yet aſſerted the exiſtence of any award: but when the plaintiff replies, and ſets forth an actual ſpecific award, if then the defendant traverſes the replication, and denies the making of any ſuch award, he then, and not before, tenders an iſſue to the plaintiff. For when in the courſe of pleading they come to a point which is affirmed on one ſide and denied on the other, they are then ſaid to be *at iſſue*; all their debates being at laſt contracted into a ſingle point, which muſt now be determined either in favour of the plaintiff or of the defendant. See ISSUE, § 1 and 2.

(1.) * PLEASANCE. *n. ſ.* [*pleaſance*, French.] Gaiety; pleaſantry; merriment. Obſolete.—

The lovely *pleaſance* and the lofty pride.
Spenſer.

Wanting grace in utt'ring of the ſame,
That turned all her *pleaſance* to a ſcoffing game.
Spenſer.

—Oh that we ſhould with joy, *pleaſance*, revel and applauſe, transform ourſelves into beaſts!
Shak.

(2.) PLEASANCE, in geography, a village adjacent to Edinburgh, being part of its ſuburbs, leading S. from the foot of the Cowgate and of St Mary's Wynd to Dalkeith, &c.

(1.) * PLEASANT. *adj.* [*plaiſant*, French.] 1. Delightful; giving delight.—

The gods are juſt, and of our *pleaſant* vices
Make inſtruments to ſcourge us. *Shak.*

What moſt he ſhould diſlike, ſeems *pleaſant* to him;
What like, offenſive. *Shak.*

—How *pleaſant* it is for brethren to dweſl in unity! *Pſalms.*—

Verdure clad
Her univerſal face with *pleaſant* green. *Milton.*

2. Grateful to the ſenſes.—

Fruits of palm-tree *pleaſanteſt* to thirſt.
Milton.

3. Good-humoured; cheerful.—

In all thy humours, whether grave or mellow,

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Thou'rt such a touchy, testy, *pleasant* fellow. *Addison.*

4. Gay; lively; merry.—Let neither the power nor quality of the great, or the wit of the *pleasant*, prevail with us to flatter the vices, or applaud the prophaneness of wicked men. *Rogers.* 5. Trifling; adapted rather to mirth than use.—They, who would prove their idea of infinite to be positive, seem to do it by a *pleasant* argument, taken from the negation of an end, which being negative, the negation of it is positive.

(2.) PLEASANT BAY, and (3.) PLEASANT RIVER, a bay and river of the United States, in Maine. The river runs into the bay, in Lon. 67. 40. W. Lat. 44. 35. N.

* PLEASANTLY. *adv.* [from *pleasant.*] 1. In such a manner as to give delight. 2. Gayly; merrily; in good humour.—King James was wont *pleasantly* to say, that the duke of Buckingham had given him a secretary, who could neither write nor read. *Clarendon.* 3. Lightly; ludicrously.—Eustathius is of opinion, that Ulysses speaks *pleasantly* to Elpenor. *Broome.*

* PLEASANTNESS. *n. s.* [from *pleasant.*] 1. Delightfulness; state of being pleasant.—Doth not the *pleasantness* of this place carry in itself sufficient reward? *Sidney.* 2. Gaiety; cheerfulness; merriment.—It was refreshing, but composed, like the *pleasantness* of youth tempered with the gravity of age. *South.*—He would fain put on some *pleasantness*. *Tillotson.*

* PLEASANTRY. *n. s.* [*plaisantrie*, French.] 1. Gaiety; merriment.—The harshness of reasoning is not a little softened and smoothed by the infusions of mirth and *pleasantry*. *Addison.*—Such kinds of *pleasantry* are disingenuous in criticism. *Addison.* 2. Sprightly saying; lively talk.—The grave abound in *pleasantries*, the dull in repartees. *Spectator.*

(1.) * *To* PLEASE. *v. a.* [*placeo*, Latin; *plaire*, French.] 1. To delight; to gratify; to humour.—They *please* themselves in the children of strangers. *Is.* ii. 6. A whistling wind, or a *pleasing* fall of water running violently. *Wisdom*, xvii. 18.

Thou can'st not be so *pleas'd* at liberty,
As I shall be to find thou dar'st be free. *Dryd.*

Leave such to trifle with more grace and ease,
Whom folly *pleases*, and whose follies *please*. *Pope.*

2. To satisfy; to content.—

Establish him in his true sense again,
And I will *please* you what you will demand. *Shak.*

What next I bring shall *please*
Thy wish exactly to thy heart's desire. *Milton.*

3. To obtain favour from; to be pleased *with*, is to approve; to favour.—This is my beloved son, in whom I am well *pleased*. *Matt.*—I have seen thy face and thou wast *pleased* with me. *Gen.*—

Who can *please* him long? *Milton.*

4. *To be* PLEASED. To like. A word of ceremony.—Many of our most skilful painters were *pleased* to recommend this author to me. *Dryden.*

(2.) * *To* PLEASE. *v. n.* 1. To give pleasure.—

What *pleasing* seem'd, for her now *pleases* more. *Milton.*

I found something that was more *pleasing* in them, than my ordinary productions. *Dryden.* 2. To gain approbation.—Their wine offerings shall not be *pleasing* unto him. *Hosea.* 3. To like; to chuse.—

Spirits, freed from mortal laws, with ease
Assume what sexes and what shapes they please. *Pope.*

4. To condescend; to comply. A word of ceremony.—

Please you, lords,
In sight of both our battles we may meet. *Shak.*

—The first words that I learnt were, to express my desire that he would *please* to give me my liberty. *Swift.*

* PLEASEMAN. *n. s.* [*please* and *man.*] A pickthank; an officious fellow.—

Some carry-tale, some *pleaseman*, some slight zany,
That knows the trick to make my lady laugh,
Told our intents. *Shak.*

* PLEASER. *n. s.* [from *please.*] One that courts favour.

PLEASING, ART OF. See POLITENESS.

* PLEASINGLY. *adv.* [from *pleasing.*] In such a manner as to give delight.—*Pleasingly* troublesome thought and remembrance have been to me since I left you. *Suckling.*—

Thus to herself she *pleasingly* began. *Milton.*

—The end of the artist is *pleasingly* to deceive the eye. *Dryden.*—

He gains all points, who *pleasingly* confounds,
Surprises, varies, and conceals the bounds. *Pope.*

* PLEASINGNESS. *n. s.* [from *pleasing.*] Quality of giving delight.

* PLEASURABLE. *adj.* [from *pleasure.*] Delightful; full of pleasure.—Planting of orchards is very profitable, as well as *pleasurable*. *Bacon.*—It affords a *pleasurable* habitation in every part. *Brown.*—

Each mutually correcting each, create
A *pleasurable* medley. *Philips.*

Our ill-judging thought
Hardly enjoys the *pleasurable* taste. *Prior.*

(1.) * PLEASURE. *n. s.* [*plaisir*, French.] 1. Delight; gratification of the mind or senses.—*Pleasure*, in general, is the consequent apprehension of a suitable object, suitably applied to a rightly disposed faculty. *South.*—A cause may be taking *pleasure* in the sins of others, is, that poor spiritedness that accompanies guilt. *South.*—

Her name with *pleasure* once she taught the shore,
Now Daphne's dead, and *pleasure* is no more. *Pope.*

2. Loose gratification.—

Convey your *pleasures* in a spacious plenty,
And yet seem cold. *Shak.*

—Behold yon dame does shake the head to hear of *pleasure*'s name. *Shak.*—

Not sunk in carnal *pleasure*. *Milton.*

3. Approbation.—The Lord taketh *pleasure* in them that fear him. *Psalms.* 4. What the will dictates.—Use your *pleasure*; if your love do not persuade you to come, let not my letter. *Shak.* He will do his *pleasure* on Babylon. *Is.* xlviii. Choice; arbitrary will.—Arbitrary calculations and such as vary at *pleasure*. *Brown.*—

Upon the rest at *pleasure* he descends. *Dryden.*
Raise tempests at your *pleasure*. —Wi

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We can at *pleasure* move several parts of our ies. *Locke.*—All the land was disposed by them rding to their *pleasure. Arbuthnot.*

.) PLEASURE. See HAPPINESS and MORAL LOSOPHY, *Part* II. *Sect.* II. To what is al- y said on this subject under these articles, we only add a single reflection or two upon *in- tual pleasure.* "If we compare (says M. Vol-) the pleasures of sense with those which are ly intellectual, we shall find that the latter are itely superior to the former, as they may be ved at all times and in every situation of life. it are the pleasures of the table, says Cicero, aming, and of women, compared with the hts of study? This taste increases with age, no happiness is equal to it. Without know- e and study, says Cato, life is almost the i- e of death. The pleasures of the soul are such it is frequent to see men preserve their gaiety g their whole life, notwithstanding a weak fed and debilitated body. SCARRON was an iple of this."—There are pleasures on which mind may securely rest, which elevate a man e himself, dignify his nature, fix his attention elestial objects, and render him fit to enjoy . These are to be found in true religion, h procures for its followers inexpressible hap- s in a better world, and in the present state xistence, affords a consolation under every ortune.

To PLEASURE. *v. a.* [from the noun.] To se; to gratify. This word, though support- y good authority, is, I think inelegant.

Things, thus set in order,
all further thy harvest, and *pleasure* thee best. *Tusser.*

count it one of my greatest afflictions that I not *pleasure* such an honourable gentleman. .—

If what pleases him, shall *pleasure* you,
ight closer. *Shak.*

When the way of *pleasuring* and displeasuring by the favourite, it is impossible any should overgreat. *Bacon.*—

Nay, the birds rural music too
as melodious and as free,
s if they sung to *pleasure* you. *Cowley.*

Nothing is difficult to love; it will make a man s his own inclinations to *pleasure* them whom oves. *Tillotson.*

PLEASUREFUL. *adj.* [*pleasure* and *full.*] Plea- ; delightful. Obsolete.—This country hath reputed a very commodious and *pleasureful* ntry. *Abbot.*

LEAUX, a town of France, in the dep. of tal, 7½ miles SW. of Mauriac, and 25 NW. urillac.

:)* PLEBEIAN. *n. s.* [*plebéien*, Fr. *plebius*, Lat.] of the lower people.—

You're *plebeians*, if they be senators. *Shak.*

Upon the least intervals of peace, the quarrels ween the nobles and the *plebeians* would re- . *Swift.*

.)* PLEBEIAN. *adj.* 1. Popular; consisting of n persons.—As swine are to gardens, so are uns to parliaments, and *plebeian* concourses ublick counsels. *King Charles.* 2. Belonging the lower ranks.—

In shew *plebeian* angel militant
Of lowest order. *Milton.*

3. Vulgar; low; common.—To apply notions philosophical to *plebeian* terms; or to say, where the notions cannot fitly be reconciled, that there wanteth a term or nomenclature for it, as the ancients used, they be but shifts of ignorance. *Bacon.*—The differences of mouldable and not mouldable, scissible and not scissible, are *plebeian* notions. *Bacon.*—

A queen! and [illegible]wn a base *plebeian* mind! *Dryden.*

(3.) PLEBEIANS. The ancient Romans were divided into patricians, and plebeians. The distinction was made by Romulus the founder of the city; who confined all dignities senatorial, civil, military, and sacerdotal, to the rank of patricians. But to prevent the seditions which such a distinction might produce through the pride of the higher order, and the envy of the lower, he endeavoured to engage them to one another by reciprocal ties and obligations. Every plebeian was allowed to choose, out of the body of the patricians, a protector, who should be obliged to assist him with his interest and substance, and to defend him from oppression. These protectors were called *patrons*; the protected *clients*. (See CLIENT, § 2, and PATRON, § 3.) But though the attachment between the patrons and clients continued inviolate for above 600 years, yet during the greater part of the republic, the struggle between the Patricians and Plebians was frequent and violent. See ROME.

PLECH, a town of Franconia, in Culmbach, 21 miles S. of Pegnitz.

PLECHATEL, a town of France, in the dep. of Ille and Vilaine; 4½ miles NW. of Bain, and 13 S. of Rhennes.

PLECTRANTHUS, in botany: a genus of the gymnospermia order, belonging to the didynamia class of plants; and in the natural method ranking under the 42d order, *Verticillatæ*. The calyx is monophyllous, short, and bilabiated; the upper lip of which is large, oval, and bent upwards; the inferior lip is quadrifid, and divided into two laciniæ: the corolla is monopetalous, ringent, and turned back; the labiæ look different ways, and from the base of the tube there is a nectarium like a spur: the filaments are in a declining situation, with simple antheræ: the stylus filiform; the stigma bifid. It has four seeds covered only by the calyx. There are two species, viz.

1. PLECTRANTHUS FRUTICOSUS, a native of the Cape of Good Hope. It flowers from June to September.

2. PLECTRANTHUS PUNCTATUS, a native of Africa. It flowers from January to May.

PLECTRONIA, in botany, a genus of the monogynia order, belonging to the pentandria class of plants.

PLEDELIAC, a town of France, in the dep. of the North Coasts, 5 miles E. of Lamballe, and 13 W. of Dinan.

(1.)* PLEDGE. *n. s.* [*pleige*, Fr. *pieggio*, Ital.] 1. Any thing put to pawn. 2. A gage; any thing given by warrant or security; a pawn.—The great humility, zeal and devotion, which appeared to

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be in them, was in all men's opinion a *pledge* of their harmleſs meaning. *Hooker.*—

There is my *pledge*, I'll prove it on thy heart. *Shak.*

That voice their livelieſt *pledge*
Of hope in fears and dangers. *Milton.*

—Money is neceſſary both for counters and for *pledges*. *Locke.*—

Aribert ſhall be the *pledge* of peace. *Rowe.*

—The deliverance of Iſrael out of Egypt by the miniſtry of Moſes, was intended for a type and *pledge* of the ſpiritual deliverance which was to come by Chriſt. *Nelſon.* 3. A ſurety; a bail; an hoſtage.—The Guianians offered to leave *pledges*, ſix for one. *Raleigh.*—

Good ſureties will we have for thy return,
And at thy *pledges'* peril keep thy day. *Dryden.*

(2.) PLEDGE, in Scots Law. See LAW, *Part* III. *Chap.* II. *Sect.* XIII, § 13.

(3.) PLEDGE, [*plegius*,] in common law, is a ſurety or gage, either real or perſonal, which the plaintiff or demandant is to find for his proſecuting the ſuit.

(4.) PLEDGE, FRANK. See FRANK, N° II. § 7, 8.

5. PLEDGES OF GOODS for money. See PAWN.

(1.) * *To* PLEDGE. *v. a.* [*pleiger*, Fr. *pieggiare*, Italian.] 1. To put in pawn.—

He *pledg'd* it to the knight; the knight had wit,
So kept the diamond, and the rogue was bit. *Pope.*

2. To give as warrant or ſecurity. 3. To ſecure by a pledge.—

Here to *pledge* my vow, I give my hand. *Shak.*

4. To invite to drink, by accepting the cup or health after another.—

The fellow, that parts bread with him and *pledges*
The breath of him in a divided draught,
Is the readieſt man to kill him. *Shak.*

To you noble lord of Weſtmoreland.
—I *pledge* your grace. *Shak.*

—That ſtexanimous orator began the king of Hombia's health; he preſently *pledg'd* it. *Howel.*—

Here's to thee, Dick; this whining love deſpiſe;
Pledge me, my friend. *Cowley.*

(2.) *To* PLEDGE, *v. a.* in drinking denotes to warrant, or be ſurety to one, that he ſhall receive no harm while he is taking his draught. The phraſe is referred by our antiquaries to the practice of the Danes, heretofore in England, who frequently uſed to ſtab or cut the throats of the natives while they were drinking.

PLEDGERY, or PLEGGERY, *n. ſ.* in law, ſuretiſhip, or an undertaking or anſwering for another.

(1.) * PLEDGET. *n. ſ.* [*plaggke*, Dutch.] A ſmall mats of lint.—I applied a *pledget* of baſilicon. *Wiſeman.*

(2.) PLEDGET, BOLSTER, or COMPRESS, in ſurgery, is a kind of flat tent laid over a wound to imbibe the ſuperfluous humours, and to keep it clean.

PLEDRAN, a town of France, in the dep. of the North Coaſts, 4 miles S. of St Brieux, and 9 W. of Lamballe.

PLEGGERY. See PLEDGERY.

(1.) * PLEIADS. PLEIADES. *n. ſ.* [*pleiades*, Lat. πλειάδες.] A northern conſtellation.—

The *pleiads* before him danc'd. *Milton.*

Then ſailors quarter'd heav'n, and found a name
For *pleiades*, hyades, and the northern car. *Dryd.*

(2.) PLEIADES, in aſtronomy, an aſſemblage of ſeven ſtars in the neck of the conſtellation Taurus. They are thus called from the Greek πλεῖν, *navigare, to ſail*; as being terrible to mariners, by reaſon of the rains and ſtorms that frequently riſe with them. The Latins called them *vergiliæ*, from *ver, ſpring*; becauſe of their riſing about the time of the vernal equinox. The largeſt is of the third magnitude, and is called *lucida pleiadum*.

(3.) PLEIADES, in the mythology, the ſeven daughters of Atlas king of Mauritania and Pleione, thus called from their mother. They were Maia, Electra, Taygete, Aſterope, Merope, Halcyone, and Celœno; and were alſo called *Atlantides*, from their father. Theſe princeſſes were carried off by Buſiris king of Egypt; but Hercules having conquered him, delivered them to their father: yet they afterwards ſuffered a new proſecution from Orion, who purſued them five years, till Jove, being prevailed on by their prayers, took them up into the heavens, where they form the conſtellation which bears their name. Maia was the mother of MERCURY by Jupiter.

PLEIBERCHRIST, a town of France, in the dep. of Finiſterre; 4½ miles SSW. of Morlaix, and 15 E. of Landerneau.

PLEIBURGH, a town of Germany, in Carinthia, on the Peiſtez, at the foot of a mountain.

PLEIGUIEN, a town of France, in the dep. of Ille and Vilaine, 5 miles E. of Dinan, and 11 S. of St Malo.

PLEINFELD, a town of Franconia, in Aichſtadt, 16 miles N. of Aichſtadt.

PLEINTING, a town of Lower Bavaria, on the Danube, 5 miles SSE. of Oſterhof.

PLEIONE, in fabulous hiſtory, a daughter of Oceanus, who married Atlas K. of Mauritania, by whom ſhe had a ſon and 12 daughters, 7 of whom were from her called PLEIADES, and 5 were called HYADES, from their brother Hyas. *(Ovid.)* See theſe articles.

PLEISNITZ, a town of Hungary, 25 miles W. of Caſchau.

PLEISSA, or } a barony of Germany in Heſſe
PLEISSEN, } Rheinfels, inſulated in Brunſwick.

PLEISVEDEL, a town of Bohemia, in Leitmeritz, 8 miles SW. of Leypa.

PLELAN, a town of France, in the dep. of the Ille and Vilaine, 30 miles ENE. of Vannes.

PLELO, a town of France, in the dep. of the North Coaſts, 7¼ miles WNW. of St Brieux, and 7½ E. of Guingamp.

PLEMET, a town of France, in the dep. of the North Coaſts; 6 miles E. of Loudeac, and 17 S. of Lamballe.

PLEMMYRIUM, in ancient geography, a promontory of Syracuſe with a caſtle: (*Virg. Æn.* 693) now called *Maſſa Oliveri*.

PLEMONT,

PLEMONT, a cape of the iſland of Jerſey, 8 miles NW. of Helier.

PLEMY, a town of France, in the dep. of the North Coaſts, 10 miles N. of Loudeac, and 10 S. of St Brieux.

* PLENARILY. *adv.* [from *plenary*.] Fully; completely.—The cauſe is made a plenary cauſe, and ought to be determined *plenarily*. *Ayliffe*.

* PLENARINESS. *n. ſ.* [from *plenary*.] Fulneſs; completeneſs.

(1.) * PLENARY. *adj.* [from *plenus*, Lat.] Full; complete.—I am far from denying that compliance on my part, for *plenary* conſent it was not, to his deſtruction. *King Charles*.—The cauſe is made a *plenary* cauſe. *Ayliffe*.—A treatiſe on a ſubject ſhould be *plenary* or full. *Watts*.

(2.) * PLENARY. *n. ſ.* Deciſive procedure.—Inſtitution without induction does not make a *plenary* againſt the king. *Ayliffe*.

(3.) PLENARY INDULGENCES. See INDULGENCE, § 2.

PLENEE, a town of France, in the dep. of the North Coaſts; 6 miles NW. of Broons, and 7½ E. of Lamballe.

PLENEUF, a town of France, in the dep. of the North Coaſts; 7 miles N. of Lamballe, and 10 WNW. of Dinan.

* PLENILUNARY. *adj.* [from *plenilunium*, Lat.] Relating to the full moon.—If we add the two Egyptian days in every month, the interluna- ry and *plenilunary* exemptions, there would ariſe above 100 more. *Brown's Vulgar Errours*.

* PLENIPOTENCE. *n. ſ.* [from *plenus* and *potentia*, Lat.] Fulneſs of power.

* PLENIPOTENT. *adj.* [*plenipotens*, Lat.] Inveſted with full power.—

My ſubſtitutes I ſend you, and create
Plenipotent on earth. *Milton's Par. Loſt*.

(1.) * PLENIPOTENTIARY. *n. ſ.* [*plenipotentiaire*, Fr.] A negotiator inveſted with full power.—They were only the [*plenipotentiary* monks of the patriarchal monks. *Stillingfleet*.

(2.) PLENIPOTENTIARY. See AMBASSADOR.

* PLENIST. *n. ſ.* [from *plenus*, Latin.] One that holds all ſpace to be full of matter.—Thoſe places, which the vacuiſts would have empty, becauſe devoid of air, the *pleniſts* do not prove repleniſhed with ſubtle matter by any ſenſible effects. *Boyle*.

(1.) * PLENITUDE. *n. ſ.* [*plenitudo*, from *plenus*, Lat. *plenitude*, Fr.] 1. Fulneſs; the contrary to vacuity.—If there were every where an abſolute *plenitude* and denſity without any pores between the particles of bodies, all bodies of equal dimenſions would contain an equal quantity of matter, and conſequently be equally ponderous. *Bentley*. 2. Repletion; animal fulneſs; plethory.—Laxation from *plenitude* is cured by ſpare diet. *Arbuthnot*. 3. Exuberance; abundance.—The *plenitude* of the pope's power of diſpenſing was the main queſtion. *Bacon's Henry* VII. 5. Completeneſs.—

The *plenitude* of William's fame
Can no accumulated ſtores receive. *Prior*.

(2.) PLENITUDE, in medicine, chiefly denotes redundancy of blood and humours.

* PLENTEOUS. *adj.* [from *plenty*.] 1. Copious; exuberant; abundant; plentiful.—Now *plenteous* theſe acts of hateful ſtrife. *Milt*.

Lab'ring the ſoil and reaping *plenteous* crop.
Milton.

Two *plenteous* fountains the whole proſpect crown'd. *Pope*.

2. Fruitful; fertile.—Take up the fifth part of the land in the ſeven *plenteous* years. *Geneſis*, xli. 35.

* PLENTEOUSLY. *adv.* [from *plenteous*.] Copiouſly; abundantly; exuberantly; plentifully.—

Thy due from me is tears,
Which nature, love and filial tenderneſs
Shall, O dear father, pay thee *plenteouſly*. *Shak*.

Each that crept, which *plenteouſly*
The waters generated. *Milt. Par. Loſt*.

—God proves us in this life, that he may the more *plenteouſly* reward us in the next. *Wake's Preparation for Death*.

* PLENTEOUSNESS. *n. ſ.* [from *plenteous*.] Abundance; fertility; plenty.—The ſeven years of *plenteouſneſs* in Egypt were ended. *Geneſis*.

* PLENTIFUL. *adj.* [*plenty* and *full*.] Copious; abundant; exuberant; fruitful. This is rather uſed in proſe than *plenteous*.—To Amalthea he gave a country, bending like a horn; whence the tale of Amalthea's *plentiful* horn. *Raleigh*.—He that is *plentiful* in expences, will hardly be preſerved from decay. *Bacon's Eſſays*.—If it be a long winter it is commonly a more *plentiful* year. *Bacon's Nat. Hiſt*.—When they had a *plentiful* harveſt, the farmer had hardly any corn. *L'Eſtrange*.—Alcibiades was a young man of noble birth, excellent education, and a *plentiful* fortune. *Swift*.

* PLENTIFULLY. *adv.* [from *plentiful*.] Copiouſly; abundantly.—They were at that time *plentifully* encreaſed. *Brown's Vulgar Errours*.—Bern is *plentifully* furniſhed with water. *Addiſon on Italy*.

* PLENTIFULNESS. *n. ſ.* [from *plentiful*.] The ſtate of being plentiful; abundance; fertility.

* PLENTY. *n. ſ.* [from *plenus*, full.] 1. Abundance; ſuch a quantity as is more than enough.—

Peace,
Dear nurſe of arts, *plenties* and joyful birth.
Shakeſp.

—What makes land, as well as other things, dear, is *plenty* of buyers, and but few ſellers; and ſo *plenty* of ſellers, and few buyers, makes land cheap. *Locke*. 2. Fruitfulneſs; exuberance.—

The teeming clouds
Deſcend in gladſome *plenty* o'er the world.
Thomſon.

3. It is uſed, I think barbarouſly, for *plentiful*.—

To graſs with thy calves,
Where water is *plenty*. *Tuſſer's Huſbandry*.

—If reaſons were as *plenty* as black berries, I would give no man a reaſon on compulſion. *Shak. Henry* IV. 4. A ſtate in which enough is had and enjoyed.—Ye ſhall eat in *plenty* and be ſatisfied. *Joel*. ii. 26.—

Whoſe grievance is ſatiety of eaſe,
Freedom their pain, and *plenty* their diſeaſe.
Harte.

PLENUM, in phyſics, denotes, according to the Cartefians, that ſtate of things wherein every part of ſpace is ſuppoſed to be full of matter, in oppoſition to a VACUUM, which is a ſpace ſuppoſed devoid of all matter.

PLENUS FLOS, a full flower; a term expreſſive of

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of the higheſt degree of luxuriance in flowers. See BOTANY, § 96, 2; and LUXURIANS FLOS. Such flowers, although the moſt delightful to the eye, are both *vegetable monſters*, and, according to the ſexualiſts, *vegetable eunuchs*; the unnatural increaſe of the petals conſtituting the firſt; the conſequent excluſion of the ſtamina or male organs, the laſt. The following are well known examples of flowers with more petals than one; ranunculus, anemone, marſh-marygold, columbine, fennel-flower, poppy, peony, pink, gilliflower, campion, viſcous campion, lily, crown imperial, tulip, narciſſus, rocket, mallow, Syrian mallow, apple, pear, peach, cherry, almond, myrtle, roſe, and ſtrawberry. Flowers with one petal are not ſo ſubject to fullneſs. The following, however, are inſtances: polyanthes, hyacinth, primroſe, crocus, meadow ſaffron, and thorn-apple, though Kramer has aſſerted that a full flower with one petal is a contradiction in terms. In flowers with one petal, the mode of luxuriance, or impletion, is by a multiplication of the diviſions of the limb or upper part; in flowers with more petals than one, by a multiplication of the petals or nectarium. To take a few examples. Columbine is rendered full in three different ways: 1. By the multiplication of its petals, and total excluſion of the nectaria; 2. By the multiplication of the nectaria, and excluſion of the petals; or, 3. By ſuch an increaſe of the nectaria only as does not exclude the petals, between each of which are interjected three nectaria, placed one within another. Again, fennel-flower is rendered full by an increaſe of the nectaria only; narciſſus, either by a multiplication of its cup and petals, or of its cup only; lark-ſpur commonly by an increaſe of the petals and excluſion of the ſpur, which is its nectarium. In *ſaponaria concava anglica*, the impletion is attended with the ſingular effect of incorporating the petals, and reducing their number from five to one; and in gelder-roſe, the luxuriance is effected by an increaſe both in magnitude and number of the circumference or margin of the head of flowers, in the plain, wheel-ſhaped, barren florets; and an excluſion of all the bell-ſhaped hermaphrodite florets of the centre or diſk. This laſt inſtance ſeems to connect the different modes of impletion in ſimple and compound flowers. As a ſimple luxuriant flower is frequently, by young botaniſts, miſtaken for a compound flower in a natural ſtate, ſuch flowers may always be diſtinguiſhed with certainty by this rule: That in ſimple flowers, however luxuriant, there is but one piſtillum or female organ; whereas in compound flowers, each floret, or partial flower, is furniſhed with its own proper piſtillum. Thus in hawk-weed, a compound flower, each flat or tongue-ſhaped floret in the aggregate has its five ſtamina and naked ſeed, which laſt is in effect its piſtillum; whereas, in a luxuriant lychnis, which is a ſimple flower, there is found only one piſtillum common to the whole. In a compound radiated flower, which generally conſiſts of plain florets in the margin or radius, and tubular or hollow florets in the centre or diſc; plenitude is effected either by an increaſe of the florets in the margin, and a total excluſion of thoſe in the diſc; which mode of luxuriance is termed *impletion by the radius*, and reſembles what happens in the gelder roſe: or by an elongation of the hollow florets in the centre, and a leſs profound diviſion of their brims; which is termed *impletion by the diſc*. In the firſt mode of luxuriance, the florets in the centre, which are always hermaphrodite or male, are entirely excluded; and in their place ſucceed florets ſimilar in ſex to thoſe of the radius. Now, as the florets in the margin of a radiated compound flower are always either female, furniſhed with the piſtillum only; or neuter, furniſhed with neither ſtamina nor piſtillum; it is evident, that a radiated compound flower, filled by the radius, will either be entirely female, as in feverfew, daiſy, and African marigold; or entirely neuter, as in ſun-flower, marygold, and centaury: hence it will always be eaſy to diſtinguiſh ſuch a luxuriant flower from a compound flower with plain florets in a natural ſtate; as theſe flowers are all hermaphrodite, that is, furniſhed with both ſtamina and piſtillum. Thus the full flowers of African marigold have each floret furniſhed with the piſtillum or female organ only: the natural flowers of dandelion, which, like the former, is compoſed of plain florets, are furniſhed with both ſtamina and piſtillum. In the ſecond mode of luxuriance, termed *impletion by the diſc*, the florets in the margin ſometimes remain unchanged: but moſt commonly adopt the figure of thoſe in the centre, without, however, ſuffering any alteration in point of ſex; ſo that confuſion is not to be apprehended from this mode of luxuriance than from the former; beſides, the length, to which the florets in the centre run out, is of itſelf a ſufficient diſtinction, and adapted to excite at once an idea of luxuriance. Daiſy, feverfew, and African marigold, exhibit inſtances of this as well as of the former mode of impletion. In luxuriant compound flowers with plain florets, the *ſtigmatophori* of Tournefort, the ſtigma or ſummit of the ſtyle in each floret is lengthened, and the ſeed-buds are enlarged and diverge; by which characters ſuch flowers may always be diſtinguiſhed from flowers of the ſame kind in a natural ſtate. Scorzonera, nipple-wort, and goat's beard, furniſh frequent inſtances of this plenitude. Laſtly, the impletion of compound flowers with tubular or hollow florets, the *floſculoſi* of Tournefort, ſeems to obſerve the ſame rules as that of radiated flowers juſt delivered. In everlaſting flower, the *xeranthemum* of Linnæus, the impletion is ſingular, being effected by the enlargement and expanſion of the inward chaffy ſcales of the calyx. Theſe ſcales, which become coloured, are greatly augmented in length, ſo as to overtop the florets, which are ſcarce larger than thoſe of the ſame flower in a natural ſtate. The florets too in the margin, which in the natural flower are female, become, by luxuriance, barren; that is, are deprived of the piſtillum; the ſtyle, which was very ſhort, ſpreads, and is of the length of the chaffy ſcales; and the ſummits, formerly two in number, are changed into one. Full flowers are more eaſily referred to their reſpective genera in methods founded upon the calyx, as the flower-cup generally remains unaffected by this higheſt degree of luxuriance.

(15.) * PLEONASM. *n. ſ.* [*pleonaſmus*, Fr. *pleonaſmus*,

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asmus, Lat.] A figure of rhetorick, by which more words are uſed than are neceſſary.

(2.) PLEONASY See ORATORY, § 203.

(1.) PLES, a town of Ruſſia, in Koſtrom, on the Volga; 16 miles S. of Koſtrom. Lon. 59. 0. E. Ferro. Lat. 57. 15. N.

(2, 3.) PLES, or PSZCZYNA, a town of Sileſia, in Ratibor, capital of a lordſhip ſo named. It has two churches, with walls and towers; 28 miles ESE. of Ratibor.

PLESCOF. See PSKOF, N° 1 & 2.

(1.) PLESCOW, a duchy in Ruſſia, between the duchies of Novogorod, Lithuania, Livonia, and Ingria.

(2.) PLESCOW, the capital of the above duchy, with an archbiſhop's ſee, and a ſtrong caſtle. It is a large place, and divided into four parts, each of which is ſurrounded with walls. It is ſeated on the Muldaw, where it falls into the lake Pleſcow, 20 miles S. of Narva, and 150 S. by W. of Peterſburg. Lon. 27. 52. E. Lat. 57. 58. N.

* PLESH. *n. ſ.* [A word uſed by *Spenſer* inſtead of *plaſh*, for the convenience of rhyme.] A puddle; a boggy marſh.—

Out of the wound the red blood flowed freſh,
That underneath his feet ſoon made a purple *pleſh*. *Spenſer.*

PLESHY, a village of Eſſex, 7 miles N. by W. of Chelmsford. It was the ſeat of the Lord High Conſtable of England from the earlieſt times till 1400. Thomas Duke of Glouceſter, uncle of K. Richard II. reſided in it, till 1397, when he was inſidiouſly enticed from it by his nephew, way-laid in Epping Foreſt, hurried to a ſhip in the Thames, in which he was ſent off to Calais, where he was privately murdered. See ENGLAND, § 30.

PLESSE, a town of Sileſia, on the Viſtula; 36 miles E. of Troppaw. Lon. 18. 36. E. Lat. 50. 0. N.

PLESSEVITZA, a mountain of Croatia; 12 miles NW. of Bihacs.

(1.) PLESSIS LES TOURS, a ci-devant royal palace of France, in the dep. of Indre and Loire, within half a league of Tours. It was built by Lewis XI. who died in it, in 1483. It is ſituated in a plain ſurrounded by woods, near the Loire. The building is yet handſome, though built of brick, and converted to purpoſes of commerce.

(2.) PLESSIS PIQUEL, a town of France, in the dep. of Paris; 5 miles SSW. of Paris.

PLESTIN, a town of France, in the dep. of the North Coaſts; 7½ miles SW. of Lannion, and 19 WSW. of Guingamp.

PLETCHBERG, a mountain of the Helvetic republic, in Berne; 22 miles SSE. of Thun.

(1.) * PLETHORA. *n. ſ.* [from πλήθω.] The ſtate in which the veſſels are fuller of humours than is agreeable to a natural ſtate of health; ariſing either from a diminution of ſome natural evacuations, or from debauch and feeding higher or more in quantity than the ordinary powers of the viſcera can digeſt: evacuations and exerciſe are its remedies.—The diſeaſes of the fluids are a *plethora*, or too great abundance of laudable juices. *Arbuth.*

(2.) PLETHORA, in medicine, (from πλῆθος, plenitude,) may be either ſanguine or ſerous. In the firſt there is too much craſſamentum in the blood, or the latter too little. In the ſanguine plethora, there is danger of a fever, inflammation, apoplexy, rupture of the blood veſſels, obſtructed ſecretions, &c.: in the ſerous, of a dropſy, &c. A rarefaction of the blood produces all the effects of a plethora; it may accompany a plethora, and ſhould be diſtinguiſhed therefrom. Mr Bromfield obſerves, that a ſanguine plethora may thus be known to be preſent by the pulſe. An artery overcharged with blood is as incapable of producing a ſtrong full pulſe, as one that contains a deficient quantity; in both caſes there will be a low and weak pulſe. To diſtinguiſh rightly, the pulſe muſt not be felt with one or two fingers on the carpal artery; but if three or four fingers cover a conſiderable length of the artery, and we preſs hard for ſome time on it, and then ſuddenly raiſe all theſe fingers except that which is neareſt to the patient's hand, the influx of the blood, if there is a plethora, will be ſo rapid as to raiſe the other finger, and make us ſenſible of the fulneſs. The ſanguine plethora is relieved by bleeding: the ſerous by purging, diuretics, and ſweating. See MEDICINE, *Index*.

* PLETHORETICK. } *adj.* [from *plethora*.]
* PLETHORICK. } Having a full habit.—The fluids, as they conſiſt of ſpirit, water, ſalts, oil, and terreſtrial parts, differ according to the redundance of the whole or of any of theſe; and therefore the *plethorick* are phlegmatick, oily, ſaline, earthy, or dry. *Arbuthnot.*

* PLETHORY. *n. ſ.* [*plethore*, Fr. from πλήθω.] Fulneſs of habit.—In too great repletion, the elaſtick force of the tube throws the fluid with too great a force, and ſubjects the animal to the diſeaſes depending upon a *plethory*. *Arbuthnot.*

PLETTENBERG, a town of Germany, in Weſtphalia, and county of Mark, on the Elſe and the Oeſter. The people are governed by their own magiſtrates; and manufacture cloths, ſcythes and other iron works. The church is common to Lutherans and Calviniſts. It lies 27 miles E. of Lennep, and 28 S. of Hannau.

PLEVEN, a town of European Turkey, in Bulgaria, on the Vid, 28 miles S. of Nicopoli.

* PLEVIN. *n. ſ.* [*plevine*, Fr. *plevina*, law Latin.] In law, a warrant or aſſurance. See REPLEVIN. *Did.*

PLEUMANGAT, a town of France, in the dep. of the North Coaſts; 6 miles SSW. of Dinan, and 16½ ESE. of Lamballe.

PLEUMARTIN, a town of France, in the dep. of the Vienne; 10 miles SE. of Chatellerault, and 20 N. of Montmorillon.

PLEUMAUDAN, a town of France, in the dep. of the North Coaſts; 6 miles SSW. of Dinan, and 16½ ESE. of Lamballe.

PLEUMOSII, an ancient people of Belgium, who inhabited the country now called Tournay. *Cæſ. de Bell. Gall.* v. c. 38.

PLEURA, in anatomy, a thin membrane covering the inſide of the thorax. See ANATOMY, *Index*.

(1.) * PLEURISY. *n. ſ.* [πλευρίτις; *pleureſie*, Fr. *pleuritis*, Lat.] *Pleuriſy* is an inflammation of the pleura, though it is hardly diſtinguiſhable from an inflammation of any other part of the breaſt, which are all from the ſame cauſe, a ſtagnated blood; and are to be remedied by evacuation, ſuppuration or expectoration, or all together. *Quincy.*

(2.) PLEURISY.

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(2.) PLEURISY. See MEDICINE, *Index*.

* PLEURITICAL. } *adj.* [from *pleurisy*.] 1. Dif-
* PLEURITICK. } eased with a pleurisy.—The viscous matter, which lies like leather upon the extravasated blood of *pleuritick* people, may be dissolved by a due degree of heat. *Arbuthnot on Aliments*. 2. Denoting a pleurisy.—His blood was *pleuritical*, it had neither colour nor consistence. *Wiseman*.

PLEURITIS. See MEDICINE, *Index*.

PLEURON, an ancient city of Ætolia, on the Evenus; founded by Pleuron, the son of Ætolus, and father of Agenor. *Apollod.* i. c. 7. *Plin.* iv. c. 2.

PLEURONECTES, in ichthyology, a genus belonging to the order of thoracici. Both eyes are on the same side of the head; there are from 4 to 5 rays in the gill membrane; the body is compressed; the one side resembling the back, the other the belly. These flat fish swim sidewise, for which reason Linnæus called them *Pleuronectes*. There are 17 species; the most remarkable are these:

1. PLEURONECTES FLESUS, the FLOUNDER, inhabits every part of the British sea, and even frequents our rivers at a great distance from the salt waters; and for this reason some writers call it the *passer fluviatilis*. It never grows large in our rivers, but is reckoned sweeter than those that live in the sea. It is inferior in size to the plaise, seldom or never weighing more than six pounds. It may very easily be distinguished from the plaise, or any other fish of this genus, by a row of sharp small spines that surround its upper sides, and are placed just at the junction of the fins with the body. Another row marks the side-line, and runs half way down the back. The colour of the upper part of the body is a pale brown, sometimes marked with a few obscure spots of dirty yellow; the belly is white.

2. PLEURONECTES HIPPOGLOSSUS, the HOLIBUT. This is the largest of the genus: some have been taken in our seas weighing from 100 to 300 pounds; but much larger are found in those of Newfoundland, Greenland, and Iceland, where they are taken with a hook and line in very deep water. They are part of the food of the Greenlanders, who cut them into large slips, and dry them in the sun. They are common in the London markets, where they are exposed to sale cut into large pieces. They are very coarse eating, excepting the part which adheres to the side fins, which is extremely fat and delicious, but surfeiting. They are the most voracious of all flat fish. There have been instances of their swallowing the lead weight at the end of a line, with which the seamen were sounding the bottom from on board a ship. The holibut, in respect to its length, is the narrowest of any of this genus except the sole. It is perfectly smooth, and free from spines either above or below. The colour of the upper part is dusky; beneath, of a pure white. We do not count the rays of the fins in this genus; not only because they are so numerous, but because nature hath given to each species characters, independent of these rays, sufficient to distinguish them by.

3. PLEURONECTES LIMANDA, the DAB, is found with the other species, but is less common. It is in best season during February, March, and April: they spawn in May and June, and become flabby and watery the rest of summer. They are superior in quality to the plaise and flounder, but far inferior in size. It is generally of an uniform brown colour on the upper side, though sometimes clouded with a darker. The scales are small and rough, which is a character of this species. The lateral line is extremely incurvated at the beginning, then goes quite straight to the tail. The lower part of the body is white.

4. PLEURONECTES MAXIMUS, the TURBOT, grows to a very large size: Mr Pennant has seen them of 23 pounds weight, but has heard of some that weighed 30. The turbot is of a remarkable square form: the colour of the upper part of the body is cinereous, marked with numbers of black spots of different sizes: the belly is white; the skin is without scales, but greatly wrinkled, and mixed with small short spines, dispersed without any order. See FISHERY, § 19.

5. PLEURONECTES PLATESSA, the PLAISE, are very common on most of our coasts, and sometimes taken of the weight of 15 pounds; but they seldom reach that size, one of eight or nine pounds being reckoned a large fish. The best and largest are taken off Rye on the coast of Sussex, and also off the Dutch coasts. They spawn in the beginning of February. They are very flat, and much more square than the holibut. Behind the left eye is a row of six tubercles, that reaches to the commencement of the lateral line. The upper part of the body and fins are of a clear brown, marked with large bright orange-coloured spots: the belly is white.

6. PLEURONECTES SOLEA, the SOLE, is found on all our coasts; but those on the western shores are much superior in size to those on the north. On the former they are sometimes taken of the weight of six or seven pounds, but towards Scarborough they rarely exceed one pound; if they reach two, it is extremely uncommon. They are usually taken in the trawl-net: they keep much at the bottom, and feed on small shell-fish. It is of a form much more narrow and oblong than any other of the genus. The irides are yellow; the pupils of a bright sapphirine colour: the scales are small, and very rough: the upper part of the body is of a deep brown; the tip of one of the pectoral fins black; the under part of the body white; the lateral line is straight; the tail rounded at the end. It is a fish of a very delicate flavour; but the small soles are in this respect much superior to large ones. By the ancient laws of the Cinque Ports, no one was to take soles from the 1st of November to the 15th of March; neither was any body to fish from sun-setting to sun-rising, that the fish might enjoy their night food. The chief fishery for them is at Brixham in Torbay.

(1.) PLEURS, a town of France, in the department of the Marne, 6 miles SE. of Sezanne.

(2.) PLEURS, a town of Switzerland, now in the Italian republic, which was buried under a mountain on the 25th Aug. 1618. See MOUNTAIN, § 14. Of this fatal event, Bp. Burnet, in his Travels, p. 96. gives a particular account. Pleurs lay about 4 miles NE. of Chiavenna. The town was half the bigness of Chiavenna, but much more nobly built, having many palaces, besides the great

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great palace of Franeken. Its population was estimated at 22,000, none of whom escaped but one man.

PLEUVAULT, a town of France, in the dep. of Cote D'Or: 12 miles SE. of Dijon.

PLEXIPPUS and TOXEUS, the sons of Thestius, brothers of Althæa, and uncles of Meleager, who killed them, and in consequence lost his own life. See MELEAGER, N° 1.

PLEXUS, *n. s.* among anatomists, a bundle of small vessels interwoven in the form of net-work: thus a congeries of vessels within the brain is called *plexus choroides*, *reticularis*, or *retiformis*. See ANATOMY, *Index*. A plexus of nerves is an union of two or more nerves, forming a sort of ganglion or knot.

PLEYBEN, a town of France, in the dept. of the Finisterre, 5 miles N. of Chateaulin, and 15 W. of Carhaix.

PLEYBERG, a town of Carinthia, in Bamberg; 9 miles E. of Clagenfurt, and 6 SW. of Lavermund.

* PLIABLE. *adj.* [*pliable*, from *plier*, French, to bend. 1. Easy to be bent; flexible.—Though the act be never so sinful, they will strip it of its filth, and make the very law so *pliable* and bending, that it shall be impossible to be broke. *South.* Whether the different motions of the animal spirits may have any effect on the mould of the face, when the lineaments are *pliable* and tender, shall leave to the curious. *Addison.* 2. Flexible in disposition; easy to be persuaded.

* PLIABLENESS. *n. s.* [from *pliable*.] 1. Flexibility; easiness to be bent. 2. Flexibility of mind. God's preventing graces, which have thus fitted the soil for the kindly seed-time, planted *pliableness*, and humility in the heart. *Hamm.*—Commit the ingenuous *pliableness* to virtuous counsels of youth, as it comes fresh out of the hands of nature, with the most confirmed obstinacy in most parts of sin, that is to be found in an aged sinner. *South.*

* PLIANCY. *n. s.* [from *pliant*.] Easiness to be bent.—Had not exercise been necessary, nature would not have given such an activity to the limbs, and such a *pliancy* to every part. *Spectator.*

* PLIANT. *adj.* [*pliant*, French.] 1. Bending; pliable; flexile; flexible; lithe; limber.—An anatomist promised to dissect a woman's tongue, and examine whether the fibres may not be made up of a finer and more *pliant* thread. *Addison.* 2. Easy to take a form.—

Earth but new divided from the sky,
And *pliant* still retain'd th' etherial energy.
Dryden.

As the wax melts that to the flame I hold,
Pliant and warm my still her heart remain,
Soft to the print, but ne'er turn hard again.
Granville.

Easily complying.—In languages the tongue is more *pliant* to all sounds in youth than afterwards. *Bacon.*—

Those, who bore bulwarks on their backs,
Now practise ev'ry *pliant* gesture,
Op'ning their trunk for ev'ry tester. *Swift.*

Easily persuaded.—The will was then ductile and *pliant* to right reason, met the dictates of a purified understanding halfway. *South.*

* PLIANTNESS. *n. s.* [from *pliant*.] Flexibility; toughness.—Greatness of weight, closeness of parts, fixation, *pliantness* or softness. *Bacon.*

PLICA POLONICA, or *plaited hair*, is a disease frequent in Poland, and occurring also in Hungary, Russia, and Tartary. Many hypotheses have been advanced respecting the causes of this disease. The most probable are those assigned by Dr Vicat, viz. 1. The Polish air, which is rendered insalubrious by numerous woods and morasses, and occasionally derives an uncommon keenness even in the midst of summer from the position of the Carpathian mountains; for the S. and SE. winds, which usually convey warmth in other regions, are in this chilled in their passage over their snowy summits. 2. Unwholesome water; for although Poland is not deficient in good springs, yet the common people usually drink that which is nearest at hand, taken indiscriminately from rivers, lakes, and stagnant pools. 3. The gross inattention of the natives to cleanliness; for those who are not negligent in their persons and habitations, are less liable to be afflicted with the plica than others who are deficient in that particular. In a word, the plica polonica appears to be a contagious distemper; which, like the leprosy, prevails among people ignorant in medicine, and inattentive to check its progress, but is rarely known in those countries where proper precautions are taken to prevent its spreading.

* PLICATION. } *n. s.* [*plicatura*,* from *plico*,
* PLICATURE. } Lat.] Fold; double. *Plication* is used somewhere in *Clarissa*.

* PLIERS. *n. s.* [from *ply*.] An instrument by which any thing is laid hold on to bend it.—*Pliers* are of two sorts, flat-nosed and round-nosed; their office is to hold and fasten upon a small work, and to fit it in its place: the round nosed *pliers* are used for turning or boring wire or small plate into a circular form. *Moxon.*—I made a detention by a small pair of *pliers*. *Wiseman.*

* PLIGHT. *n. s.* [This word *Skinner* imagines to be derived from the Dutch, *plicht*, office or employment; but *Junius* observes, that *plibt*, Saxon, signifies distress or pressing danger; whence I suppose, *plight* was derived, it being generally used in a bad sense.] 1. Condition; state.—

He no longer would
There dwell in peril of like painful *plight*.
Spenser.

—I think myself in better *plight* for a lender than you are. *Shak.*—

My women may be with me; for, you see
My *plight* requires it. *Shak.*
They in lowliest *plight* repentant stood. *Milt.*
Thou must not here
Lie in this miserable loathsome *plight*. *Milton.*
Most perfect hero tried in heaviest *plight*
Of labours huge and hard. *Milton.*

2. Good case.—

He that with labour can use them aright,
Hath gaine to his comfort, and cattel in *plight*.
Tusser.

3. Pledge; gage. [from the verb.]—

That lord, whose hand must take my *plight*, shall carry
Half my love with him, half my care and duty.
Shak.

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4. [From *To plight.*] A fold; a pucker; a double; a purfle; a plait.—

Purfled upon with many a folded *plight*. *Spenſ.*

5. A garment of ſome kind. Obſolete.—

He let not lack
My *plight*, or coate, or cloake. *Chapman.*

* *To* PLIGHT. *v. a.* [*plichten*, Dutch.] 1. To pledge; to give as ſurety.—

He *plighted* his right hand
Unto another love. *Spenſer.*

Saint Withold
Met the night mare, and her ninefold,
Bid her alight, and her troth *plight*. *Shak.*

I again in Henry's royal name,
Give thee her hand for ſign of *plighted* faith. *Shak.*

Here my inviolable faith I *plight*. *Dryden.*

New vows to *plight*, and *plighted* vows to break. *Dryden.*

I'll never mix my *plighted* hands with thine. *Addiſon.*

2. To braid; to weave. [from *plico*, Lat. whence to ply or bend, and *plight*, *pleight*, or *plait*, a fold or flexure.]—

About her neck, or rings of ruſhes *plight*. *Spenſer.*

Some gay creatures of the element,
That in the colours of the rainbow live,
And play i' th' *plighted* clouds. *Milton.*

PLIMLIMMON, a high mountain of S. Wales, in the N. part of Cardiganſhire, on the borders of Montgomeryſhire; called alſo *Snowdon*. See SNOWDON.

PLIMPTON, or PLYMPTON, a town of Devonſhire, with a market on Saturdays; ſeated on a branch of the Plym. It had once a caſtle, now in ruins. It ſends two members to parliament; is 7 miles E. of Plymouth, and 218 W. by S. of London. Lon. 4. 0. W. Lat. 50. 22. N.

PLINIA, in botany; a genus of plants of the polyandria claſs, in the order monogynia. The empalement is divided into 5 ſegments; the flower conſiſts of 5 petals; the ſtamina are numerous filaments, ſlender, and as long as the flower; the antheræ, and the germen of the piſtil are ſmall; the ſtyle is ſubulated, and of the length of the ſtamina; the ſtigma is ſimple; the fruit is a large globoſe berry, of a ſtriated or ſulcated ſurface, containing only one cell, in which is a very large, ſmooth, and globoſe ſeed. There is only one ſpecies.

PLINIUS SECUNDUS, Caius Cæcilius, the complete Roman name of both the Plinies. See PLINY, N° 1. and 2.

(1.) * PLINTH. *n. ſ.* [πλινθος.] In architecture, is that ſquare member which ſerves as a foundation to the baſe of a pillar; Vitruvius calls the upper part or abacus of the Tuſcan pillar, a *plinth*, becauſe it reſembles a ſquare tile: moreover, the ſame denomination is ſometimes given to a thick wall, wherein there are two or three bricks advanced in form of a platband. *Harris.*

(2.) PLINTH, ORLE, or ORLO. See ARCHITECTURE, *Index*. Vitruvius alſo calls the Tuſcan abacus *plinth*.

(3.) PLINTH OF A STATUE, &c. is a baſe, either flat, round, or ſquare, that ſerves to ſupport it.

(4.) PLINTH OF A WALL, denotes two or three rows of bricks advancing out from a wall; or, in general, a flat high monlding, that ſerves in a front wall to mark the floors, to ſuſtain the eaſe of a wall, or the larmier of a chimney.

PLINTHINE, an ancient town of Egypt, on the coaſt of the Mediterranean.

(1.) PLINY, THE ELDER, or CAIUS CÆCILIUS PLINIUS SECUNDUS, one of the moſt learned men of ancient Rome, was deſcended from an illuſtrious family, and born at Verona. He bore arms in a diſtinguiſhed poſt; was one of the college of Augurs; became intendant of Spain; and was employed in ſeveral important affairs by Veſpaſian and Titus, who honoured him with their eſteem. The eruption of Mount Veſuvius, which happened in the year 79, proved fatal to him. His nephew, Pliny the Younger, relates the circumſtances of that dreadful eruption, and the death of his uncle, in a letter to Tacitus. Pliny the Elder wrote a Natural Hiſtory in 37 books, which is ſtill extant, and has had many editions: the moſt eſteemed of which is that of Father Hardouin, printed at Paris in 1723, in two volumes folio. He alſo wrote 160 volumes of obſervations on various authors; for which Larcius Lutinius offered him an enormous ſum, equal to L. 3241 Sterling, but was refuſed.

(2.) PLINY, THE YOUNGER, nephew and adopted ſon of the preceding, was born in the 9th year of Nero, and the 62d of Chriſt, at Novocomum, now COMO, upon the lake Larius, near which he had ſeveral beautiful villas. Lucius Cæcilius was the name of his father. He ſhowed very early talents. He wrote a Greek tragedy at 14 years of age. He loſt his father when he was young; and had the famous Virginius for his tutor, whom he has ſet in a glorious light. He frequented the ſchools of the rhetoricians, and heard Quintilian; for whom he ever after entertained ſo high an eſteem, that he beſtowed a conſiderable portion upon his daughter at her marriage. He was in his 18th year when his uncle died; and he then began to plead in the forum, which was the uſual road to dignities. About a year after, he aſſumed the military character, and went into Syria as tribune; but this did not ſuit his taſte, and he returned after a campaign or two. In his paſſage home he was detained by contrary winds at the iſland of Icaria, where he wrote poetry. Upon his return from Syria, he married, and fixed at Rome, in the reign of Domitian. During this moſt perilous time, he continued to plead in the forum, where he was diſtinguiſhed no leſs by his uncommon abilities and eloquence, than by his great reſolution and courage, which enabled him to ſpeak boldly, when ſcarcely any one elſe durſt ſpeak at all. He was therefore often appointed by the ſenate to defend the plundered provinces againſt their oppreſſive governors, and to manage other cauſes of a like important and dangerous nature. One of theſe was for the province of Bætica, in their proſecution of Bæbius Maſſa; in which he acquired ſo general an applauſe, that the emperor Nerva, then a private man, and in banishment at Tarentum, wrote to him a letter, in which he congratulated not only Pliny, but the age which had produced an example ſo much in the ſpirit of the ancients. Pliny relates this affair in a letter to Tacitus, whom he intreats to record it in his hiſtory.

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iſtory, but with much more modeſty than Tully ad intreated Lucceius upon a ſimilar occaſion. le obtained the offices of queſtor and tribune, nd fortunately eſcaped the tyranny of Domitian. But he tells us himſelf, that his name was afterards found in Domitian's tablets, in the liſt of hoſe who were deſtined to deſtruction. He loſt is wife in the beginning of Nerva's reign, and oon after married his beloved Calphurnia, of vhom we read ſo much in his Epiſtles. He had, owever, no children by either of his wives: nd hence we find him thanking Trajan for the *s trium liberorum*, which he had granted to his riend Suetonius Tranquillus. He was promoted o the conſulate by Trajan in the year 100, when e was 38 years of age; and in this office pro-ounced that famous panegyric, which has ever nce been admired, as well for the copiouſneſs of he topics as the elegance of addreſs. Then he vas elected augur, and afterwards made procon-l of Bithynia; whence he wrote to Trajan, that urious letter concerning the primitive Chriſtians; vhich, with Trajan's reſcript, is happily extant mong his Epiſtles. (See CHRISTIAN, § 10.) Pli-y's letter, as Mr Melmoth obſerves in a note u-on the paſſage, is eſteemed one of the few genu-ne monuments of eccleſiaſtical antiquity relating o the times immediately ſucceeding the apoſtles, being written at moſt not above 40 years after he death of St Paul. It was preſerved by the Chriſtians, as a clear and unſuſpicious evidence of he purity of their doctrines, and is often appeal-d to by the early writers of the church againſt he calumnies of their adverſaries. It is not known vhat became of Pliny after his return from Bithy-ia. Antiquity is alſo ſilent as to the time of his eath: but it is ſuppoſed that he died either a ttle before or ſoon after Trajan; that is, about . D. 116. Pliny was one of the greateſt wits, nd one of the worthieſt men, among the ancients. e had fine parts, which he cultivated to the ut-oſt; and he accompliſhed himſelf with all the nowledge of the age. He wrote and publiſhed great number of books; but nothing has eſcaped he wreck of time except his Letters, and his pa-gyric upon Trajan. This has ever been conſider-l as a maſter-piece: and if he has almoſt exhauſ-d all the ideas of perfection upon that prince, t no panegyriſt ever poſſeſſed a ſubject, on which might better indulge in all the flow of eloquence, ithout incurring the ſuſpicion of flattery and ſervility. In his letters he may be conſidered as iting his own memoirs. Every epiſtle is a kind hiſtorical ſketch, wherein we have a view of n in ſome ſtriking attitude. In them are alſo eſerved anecdotes of many eminent perſons, oſe works are come down to us, as Suetonius, ius Italicus, Martial, Tacitus, and Quintilian; d of curious things, which throw great light u-on the hiſtory of thoſe times. In a word his itings breathe a ſpirit of tranſcendent goodneſs d humanity. There are two elegant Engliſh-nſlations of his Epiſtles; the one by Mr Mel-oth, and the other by Lord Orrery.

PLISA, a town of Lithuania, in the palatinate Minſk; 22 miles E. of Minſk.

PLISTARCHUS, the ſon of Leonidas, K. of arta, ſucceeded Cleombrotus. *Herod.* ix. 10.

PLISTHANUS, a philoſopher of Elis, who ſucceeded PHÆDON in his Elnac School. *Diog.*

PLISTHENES, the ſon of ATREUS, king of Argos, and the father of AGAMEMNON and MENELAUS, according to Heſiod and others. He died before his father, and his children were educated by their grandfather, Atreus, and hence were called ATRIDÆ, and paſſed for his ſons.

PLISTONAX, the ſon of Pauſanias, one of the kings of Sparta, was general of the Lacedæmonians in the Peloponneſian war. He ſucceeded Pliſtarchus, and reigned 58 years, but was baniſhed 19 years, till he was recalled by order of the Delphian oracle. *Thucyd.*

PLISTUS, a river of Phocis, which runs into the bay of Corinth. *Strabo* ix.

PLIVA, a river of Boſnia, which runs into the Verbas.

PLIUSA, a river of Ruſſia, which runs into the Baltic, between Narva and Ivangorod.

PLIVSKINA a town of Ruſſia, in Irkutſk, 20 miles NE. of Old Edinſk.

PLIWISCHEN, a town of Pruſſia, in the prov. of Samland, 28 miles E of Konigſberg.

PLOCAMA, in botany, a genus of the monogynia order, belonging to the pentandria claſs of plants. The calyx is quinquedentate; the fruit is a berry and trilocular, with ſolitary ſeeds. There is only one ſpecies;

PLOCAMA PENDULA, a native of the Canaries.

PLOCE. See ORATORY, § 208.

PLOCKEN ALBEN, a mountain of Germany, in Carinthia; 6 miles SE. of Mauten.

(1.) PLOCKSKO, or PLOCZKO, a palatinate of Poland, bounded on the N. by Regal Pruſſia, E. by Mazovia, S. by the Viſtula, and W. by the palatinate of Inoviadiſlaw.

(2.) PLOCKSKO, or } the capital of the above
(2.) PLOCZKO, } palatinate, with a caſtle and a biſhop's ſee. The churches are very magnificent; and it is built upon a hill, whence there is a fine proſpect every way, near the Viſtula. It is 25 miles SE. of Uladiſlaw, and 65 W. of Warſaw. Lon. 19. 29. E. Lat. 52. 46. N.

* *To* PLOD. *v. n.* [*ploeghen*, Dutch. *Skinner.*] 1. To toil; to moil; to drudge; to travel.—A *plodding* diligence brings us ſooner to our journey's end, than a fluttering way of advancing by ſtarts. *L'Eſtrange.*—He knows better than any man, what is not to be written; and never hazards himſelf ſo far as to fail, but *plods* on deliberately, and, as a grave man ought, puts his ſtaff before him. *Dryden.*—

Th' unletter'd Chriſtian, who believes in groſs,
Plods on to heav'n, and ne'er is at a loſs. *Dryd.*
Some ſtupid, *plodding*, money-loving wight.
Young.

2. To travel laboriouſly.—

Rogues! *plod* away o' the hoof, ſeek ſhelter!
Shak.
One of mean affairs
May *plod* it in a week. *Shak.*
Haſt thou not held my ſtirrup?
Bare-headed, *plodded* by my foot-cloth mule?
Shak.
Ambitious love hath ſo in me offended,

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That barefoot *plod* I the cold ground upon,
With fainted vow. *Shak.*

3. To ſtudy cloſely and dully.—
Univerſal *plodding* priſons up
The nimble ſpirits in the arteries. *Shak.*
He *plods* to turn his am'rous ſuit
T' a plea in law, and proſecute. *Hudibraſ.*
She reaſon'd without *plodding* long. *Swift.*

* PLODDER. *n. ſ.* [from *plod.*] A dull heavy laborious man.—
What have continual *plodders* ever won,
Save baſe authority from other's books? *Shak.*

PLOEN, a town of Germany, in the circle of Lower Saxony, and capital of Holſtein. It ſtands on the banks of a lake of the ſame name, and gave a title to the duke of Holſtein, till by the death of the laſt duke Charles without male iſſue it fell to the king of Denmark in 1761. It has been often burnt. The old ducal palace is in the midſt of the town; which lies 22 miles NW. of Lubeck, and 10 SE. of Keill. Lon. 10. 30. E. Lat. 54. 11. N.

(1.) PLOERMEL, a town of France, in the dep. of the Morbihan, and ci-devant province of Bretagne; 4 miles W. of Auray, 12 SE. of Orient, and 27 NE. of Vannes.

(2.) PLOERMEL, another town of France, alſo in the Morbihan, deſcribed by Mr Cruttwell, as "9 *poſts* E. of Henneſebon, (though he no-where defines a *poſt*,) and 54¾ W. of Paris. Lon. 15. 36. E. Ferro. Lat. 47. 57. N."

PLOESTI, a town of Walachia, 128 miles E. of Orſova, and 200 E. of Belgrade.

PLOEUC, a town of France, in the dep. of the North Coaſts; 10 miles S. of St Brieux, and 10 N. of Loudeac.

PLOGASTEL, a town of France, in the dep. of Finiſterre; 7 miles W. of Quimper, and 9 ESE. of Pont-croix.

PLOGONNEC, a town of France, in the dep. of Finiſterre; 5 miles E. of Douarnenez, and 6 NNW. of Quimper.

PLOMBIERES, two towns of France; 1. in the dep. of the Cote D'Or; 3 miles NW. of Dijon: 2. in that of the Voſges; 6 miles SW. of Remiremont, and 12 S. of Epinal.

PLOMELIN, a town of France, in the dep. of Finiſterre, 4 miles S. of Quimper, and 10 NW. of Concarneau.

PLOMEUR, a town of France, in the dep. of Finiſterre, 10½ miles SSW. of Quimper, and 14 S. of Douarnenez.

PLOMION, a town of France, in the dep. of the Aiſne; 6 miles ESE. of Vervins.

PLOMO, in metallurgy, is a name given by the Spaniards, who have the care of the ſilver mines, to the ſilver ore, when found adhering to the ſurface of ſtones, and when it incruſts their cracks and cavities like ſmall grains of gun-powder. Though theſe grains be few in number, and the reſt of the ſtone has no ſilver in it, yet they are always very happy when they find it, as it is a certain token that there is a rich vein near it. And if in digging forwards they ſtill meet with theſe grains, or the plomo in greater quantity, it is a certain ſign that they are getting more and more near the good vein.

PLOMODIERN, a town of France, in the dep. of Finiſterre; 4 miles W. of Chateaulin, and 11 N. of Quimper.

PLONCOUR, a town of France, in the dep. of Finiſterre; 8 miles SW. of Quimper, and 11 SE. of Pontcroix.

PLONDIRY, a town of France, in the dep. of the Finiſterre; 4½ miles E. of Landerneau, and 4 SW. of Landiviſiau.

PLONGONVERT, a town of France, in the dep. of the North Coaſts; 5 miles S. of Belleiſle en Terre, and 10 WSW. of Guingamp.

PLONSK, a town of Poland, in Plonzko; 12 miles N. of Plonzko.

PLOSAWO, a town of Poland, in Belz.

(1.) PLOT, Robert, LL.D. a learned antiquarian and philoſopher, born at Sutton-barn, in the pariſh of Borden in Kent, in 1641. He ſtudied in Magdalen-hall, afterwards in University-college, Oxford. In 1682 he was elected ſecretary of the Royal Society, and publiſhed the *Philoſ. Trans.* from N° 143 to N° 166 inclusive. The next year Elias Aſhmole, Eſq; appointed him firſt keeper of his muſeum, and about the ſame time the vice-chancellor nominated him firſt profeſſor of chemiſtry in the univerſity of Oxford. In 1687 he was made ſecretary to the Earl Marſhal, and in 1688, *Hiſtoriographer* to King James II. In 1690 he reſigned his profeſſorſhip of chemiſtry, and alſo his place of keeper of the muſeum, to which he preſented a very large collection of natural curioſities; which were thoſe he had deſcribed in his hiſtories of Oxfordſhire and Staffordſhire: the former publiſhed at Oxford in 1677, folio; reprinted with additions and corrections in 1705; the latter in the ſame ſize in 1686. In January 1694-5, Henry Howard, Earl Marſhal, nominated him Mowbray-herald extraordinary; two days after which he was conſtituted regiſter of the court of honour; and, on the 30th of April 1696 he died of the ſtone at his houſe in Borden. Amongſt ſeveral MSS. which he left were large materials for the "Natural Hiſtory of Kent, Middleſex, and London." He alſo publiſhed *De origine fontium; tentamen philoſophicum*, 8vo; and 9 papers in the *Philoſ. Tranſ.*

(2.) * PLOT. *n. ſ.* [*plot*, Sax. See PLAT.] 1. A ſmall extent of ground.—
It was a choſen *plot* of fertile land. *Spenſer.*
Plant ye with alders or willows a *plot*. *Tuſ.*
This liketh moory *plots*. *Drayton.*
Many unfrequented *plots* there are,
Fitted by kind for rape and villany. *Shak.*
Were there but this ſingle *plot* to loſe,
This mould of Marcius, they to duſt would grind it. *Shak.*
When we mean to build,
We firſt ſurvey the *plot*, then draw the model. *Shak.*
—Weeds grow not in the wild uncultivated waſte, but in garden *plots* under the negligent hand of a gardener. *Locke.* 2. A plantation laid out.—Any leſs than a goddeſs could not have made it ſo perfect a *plot*. *Sidney.* 3. A form; a ſcheme; a plan.—The law of England never was properly applied unto the Iriſh nation, as by a purpoſed *plot* of government. *Spenſer.* 4. [Imagined by *Skinner* to be

e derived from *platform*, but evidently contracted from *complot*, Fr.] A conſpiracy; a ſecret deſign formed againſt another.—

I have o'erheard a *plot* of death upon him.
Shak.

Nought could croſs their *plot*. *Dan.*

O think what anxious moments paſs between
The birth of *plots*, and their laſt fatal periods!
Addiſon.

. An intrigue; an affair complicated, involved nd embarraſſed; the ſtory of a play, comprising n artful involution of affairs, unravelled at laſt y ſome unexpected means.—

Nothing muſt be ſung between the acts,
But what ſome way conduces to the *plot*.
Rojcommon.

Our author
Made him obſerve the ſubject and the *plot*. *Pope.*

-They deny the *plot* to be tragical, becauſe its ataſtrophe is a wedding. *Gay.*—If the *plot* or inigue muſt be natural and ſuch as ſprings from e ſubject, then the winding up of the *plot* muſt : a probable conſequence of all that went beore. *Pope.* 6. Stratagem; artifice, in an ill ſenſe.

Fruſtate all our *plots* and wiles. *Milton.*

Contrivance; deep reach of thought.—

Who ſays he was not
A man of much *plot*,
May repent that falſe accuſation. *Denham.*

(3.) PLOT, in ſurveying, (§ 2. *def.* 1.) the plan r draught of any field, farm, or manor, ſurveyed ith an inſtrument, and laid down in the proper gure and dimenſions.

(4.) PLOT, (§ 2. *def.* 5.) in dramatic poetry, is metimes uſed for the table of a tragedy or omedy; but more properly for the knot or inigue, which makes the *embarras* of any piece. ee POETRY.

(1.)* *To* PLOT. *v. a.* [from the noun.] 1. To lan; to contrive.—

With ſhame and ſorrow fill'd:
Shame for his folly; ſorrow out of time
For *plotting* an unprofitable crime. *Dryden.*

2. To deſcribe according to ichnography.—This reatiſe *plotteth* down Cornwall as it now ſtandeth, or the particulars. *Carew.*

(2.)* *To* PLOT. *v. n.* 1. To form ſchemes of miſchief againſt another, commonly againſt thoſe authority.—

The ſubtle traitor
This day had *plotted* in the council houſe
To murther me. *Shak.*

-The wicked *plotteth* againſt the juſt. *Pſ.* xxxvii. 2.—

He who envies now thy ſtate,
Who now is *plotting* how he may ſeduce
Thee from obedience. *Milton.*

The wolf that round th' incloſure prowl'd
To leap the fence, now *plots* not on the fold.
Dryden.

2. To contrive; to ſcheme.—The count tells the marquis of a flying noiſe, that the prince did *plot* o be ſecretly gone; to which the marquis anwer'd, that though love had made his highneſs eal out of his own country, yet fear would neer make him run out of Spain. *Wotton.*

PLOTÆ, iſlands on the coaſt of Ætolia.

PLOTINA POMPEIA, a Roman lady who was married to the emperor Trajan, when he was in a private ſtation. She accompanied him and ſhared his honours when he was elected emperor, and proved herſelf worthy of ſuch a conſort, by her humanity, affability, and liberality to the poor. She accompanied Trajan in his expedition to the Eaſt, and on his death brought back his aſhes to Rome; where ſhe was treated with all the honours due to her dignity and virtue, by Adrian. She died, A. D. 122.

PLOTINOPOLIS, 1. A town of Thrace, built by Trajan, and named after his wife: 2. A town in Dacia.

PLOTINUS, a Platonic philoſopher of the 3d century, born at Lycopolis, in Egypt, A. D. 204. He attended ſome of the moſt famous profeſſors of philoſophy in Alexandria, but was not ſatisfied with their lectures. But upon hearing Ammonius he became ſo fond of his ſyſtem, that he ſtudied under him for 11 years. He then travelled for farther improvement into Perſia, and India; and followed the Roman army, in 243, when the Emp. Gordian let out on his unfortunate expedition againſt the Perſians; in which he loſt his life, and our philoſopher narrowly eſcaped ſharing his fate. In 244, he returned to Rome, where he read philoſophical lectures, which were attended by people of all ranks, patricians and plebeians, and rendered him very popular. Among other learned pupils, the celebrated Porphyry attended him 6 years: and his reputation for integrity and virtue, as well as learning, became ſo great, that his arbitration was often applied for, to decide or preſent law ſuits; and many perſons of property when dying, left their children to his tutorage, and their eſtates to his care. The emperor Gallienus and his empreſs Salonina had ſo great an eſteem for him, that they once intended to rebuild the city of Campania, and aſſign it over with its territory, to Plotinus, to be colonized by a ſet of *Philoſophers*, upon the plan of Plato's republic; but were diſſuaded by ſome courtiers who envied his merit. But, with all his virtues and merits, Plotinus held ſome very abſurd opinions. He not only entertained the utmoſt contempt for all terreſtrial enjoyments, but deſpiſed *matter* ſo philoſophically, that he was *aſhamed* that his ſoul was obliged to be lodged in *a body*, which he conſidered as a *priſon*. From this principal, he lived not only very temperately, but even to abſtemiouſiy, that he ſlept very little and hence there is reaſon to believe his brain was in ſome degree affected. For though a Pagan to the end of his life, he pretended to many of thoſe viſions and illuminations by the Deity, which the ſuperſtitious devotees in all ages and religions have boaſted of. In ſhort he boaſted, that he not only had a familiar dæmon or angel, like Socrates, but that he had even often been *united to the Deity* himſelf. Yet of this Deity he appears to have entertained ſome very confuſed notions. He wrote two books to prove that "*All being* is *one and the ſame*;" which is the very atheiſtical doctrine of Spinoza; and he inquires in another tract, "Whether there are *many ſouls* or only *one*?" Full of theſe romantic metaphyſical ideas and uncertainties, he died, A. D. 570, aged 66, with theſe words: "I am labouring with all my might to

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to return the *divine part of me* to that *Divine Whole* which fills the univerſe!" He left 54 treatiſes on various ſubjects; which his diſciple Porphyry collected and arranged in 6 *Enneades*, or volumes of *nine* tracts each; and publiſhed with his life. Marſilius Ficinus, at the deſire of Coſmode Medicis, tranſlated this work into Latin, which was publiſhed at Baſil in 1559; and reprinted along with the Greek in 1580, folio.

(1.) PLOTIUS, Lucius, a Roman poet, who flouriſhed in the time of Marius, and celebrated that hero's exploits in his poems.

(2.) PLOTIUS GALLUS, Lucius, a native of Gaul, who firſt taught Oratory at Rome in Latin. CICERO himſelf was one of his pupils. *Cic. de Orat.*

(3.) PLOTIUS TUCCA, a learned Roman, who flouriſhed in the Auguſtan Age, and was intimate with all the literati of that dignified period. He was particularly the friend of Horace, Mæcenas and Virgil, who left him his heir. Auguſtus appointed him along with Varius to review Virgil's Æneid. *Hor.* 1. Sat. 5. v. 40.

* PLOTTER. *n. ſ.* [from *plot.*] 1. Conſpirator. —Colonel, we ſhall try who's the greater *plotter* of us two; I againſt the ſtate, or you againſt the petticoat. *Dryden.* 2. Contriver.—

An irreligious moor,
Chief architect and *plotter* of theſe woes. *Shak.*

(1.) PLOTTNITZ, a town of Sileſia, in Neiſſe; 3 miles W. of Patſchkau.

(2.) PLOTTNITZ, a lake of Sileſia, in Oels; 4 miles E. of Militſch.

PLOTUS, or DARTER, in ornithology, a genus of birds belonging to the order palmipedes. The bill is long and ſharp-pointed; the noſtrils are merely a long ſlit placed near the baſe; the face and the chin are bare of feathers; the neck is very long; and the legs are ſhort. They have 4 toes webbed together. There are 3 ſpecies, and 3 varieties of the 2d of theſe.

1. PLOTUS ANHINGA, the *white-bellied darter*, is not quite ſo big as a mallard; but its length from the point of the bill to the end of the tail is 10 inches. The bill is 3 inches long, ſtraight and pointed: the colour is greyiſh, with a yellowiſh baſe: the neck long and ſlender: the upper part of the back and ſcapulars are of a duſky black colour; the middle of the feathers are daſhed with white: the lower part of the back, &c. are of a fine black colour: the under parts from the breaſt are ſilvery white: the ſmaller wing coverts, and thoſe in the middle, are duſky black; the larger ones are ſpotted with white, and the outer ones are plain black: the tail feathers are 12; broad, long, and gloſſy black: the legs and toes are of a yellowiſh grey. This ſpecies inhabit Braſil, and are exceedingly expert in catching fiſh. Like the corvorant, they build neſts on trees, and rooſt in them at night. They are ſcarcely ever ſeen on the ground; being always on the higheſt branches of trees on the water, or ſuch as grow in the moiſt ſavannas on river ſides. When at reſt, they ſit with the neck drawn in between the ſhoulders like the heron. The fleſh is in general very fat; but has an oily, rank, and diſagreeable taſte like that of a gull. See ANHINGA.

2. PLOTUS CAYENNENSIS, *the anhinga of Cayenne, black-bellied anhinga*, is as large as a common duck, with a very long neck and a long ſharp-pointed ſtraight bill. The upper part of the bill is of a pale blue, and the lower is reddiſh: the eyes are very piercing: the head, neck, and upper part of the breaſt are light brown: both ſides of the head, and the upper part of the neck, are marked with a broad white line: the back, ſcapulars, and wing coverts, are marked with black and white ſtripes lengthwiſe in equal portions: the quill feathers, the belly, thighs, and tail, are of a deep black colour: the tail is very long and ſlender: the legs and feet are of a pale green colour; and the four toes, like thoſe of the cormorant, are united by webs. This ſpecies is found in Ceylon and Java. They generally ſit on the ſhrubs that hang over the water; and, when they ſhoot out their long ſlender necks, are often taken for ſerpents at firſt ſight. Mr Lathan deſcribes three varieties of this ſpecies, which are all equal in ſize to the common birds of the ſpecies. The firſt and the ſecond varieties, which laſt Mr Latham calls the *black darter*, inhabit Cayenne: and the 3d, or rufous darter, inhabits Africa, particularly Senegal, where it is called *kankar*.

3. PLOTUS SURINENSIS, *the Surinam darter*, is about 13 inches long, being about the ſize of a teal. The bill is of a pale colour, and about 1¾ inches in length: the irides are red: the crown of the head is black, and the feathers behind form a ſort of creſt: the neck, as in the other ſpecies, is long and ſlender: the cheeks are of a bright bay colour: from the corner of each eye there comes a line of white: the ſides and back part of the neck are marked with longitudinal lines of black and white: the wings are black, and the tail is duſky brown: it is alſo tipped with white and ſhaped like a wedge: the breaſt and belly are white: the legs ſhort, but very ſtrong, and of a pale duſky colour: the 4 toes are joined by a membrane, and barred with black. This ſpecies inhabits Surinam, frequenting the ſides of rivers and creeks, where it feeds on ſmall fiſh and inſects, eſpecially on flies, which it catches with great dexterity. When domeſticated, which often happens, the inhabitants call it the *ſun bird*. Authors have differed exceedingly concerning the genus to which this ſpecies belongs, as it is found to differ from the others in ſome pretty eſſential characters: it agrees, however, in ſo many, and thoſe the moſt eſſential, as ſufficiently to authoriſe claſſing it with this genus. See *Latham's Synopſis.* vol. iii. part 2. p. 627.

PLOTZKAU, a town of Upper Saxony in Anhalt Bernberg, 5 miles SSW. of Bernberg, and 24 WSW. of Deſſau.

PLOUAY, a town of France, in the dep. of the Morbihan; 7½ miles N. of Hennebon, and 8 SSE. of Faouet.

PLOUBALAY, a town of France, in the dep. of the North Coaſts; 6 miles SW. of St Malo, and 8 N. of Dinan.

PLOUCADEUC, a town of France, in the dep. of the Morbihan; 3 miles S. of Maieſtroit, and 4½ N. of Rochefort.

PLOUDALMEZEAU, a town of France, in the dep. of Finiſterre 11 miles NNW. of Breſt, and 13. W. of Leſneven.

PLO-

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PLOUGH.

Plate CCLXIV

Fig. 1.

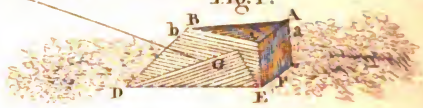

Fig. 2.

Fig. 6.

Fig. 5.

Fig. 3.

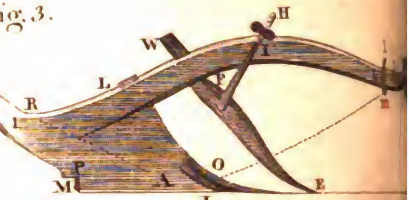

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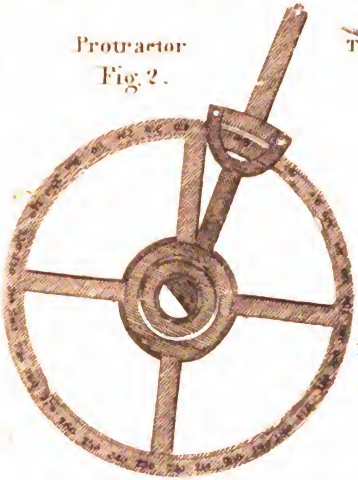
Fig. 2.



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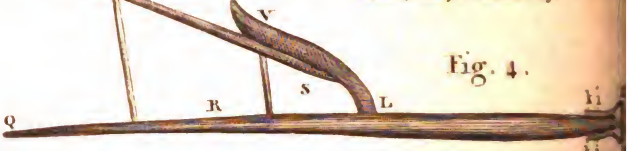
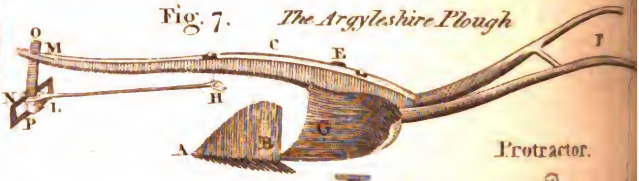


Fig. 7. *The Argyleshire Plough*



Protractor.

Fig. 3.

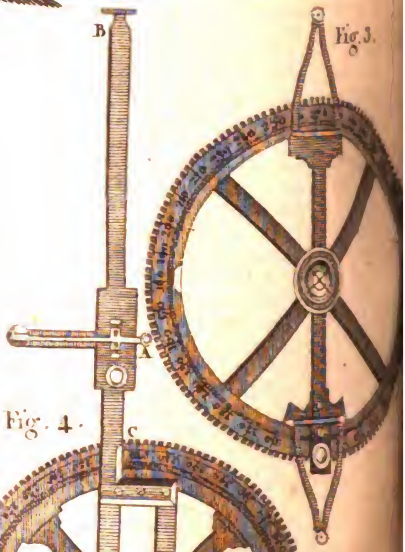
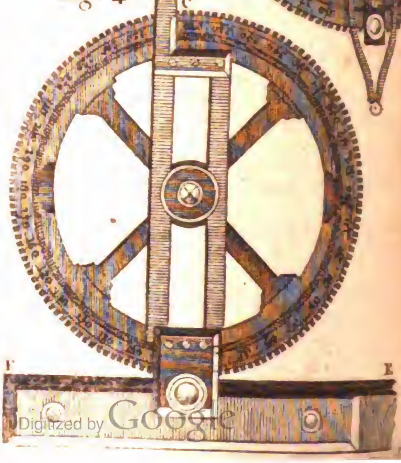
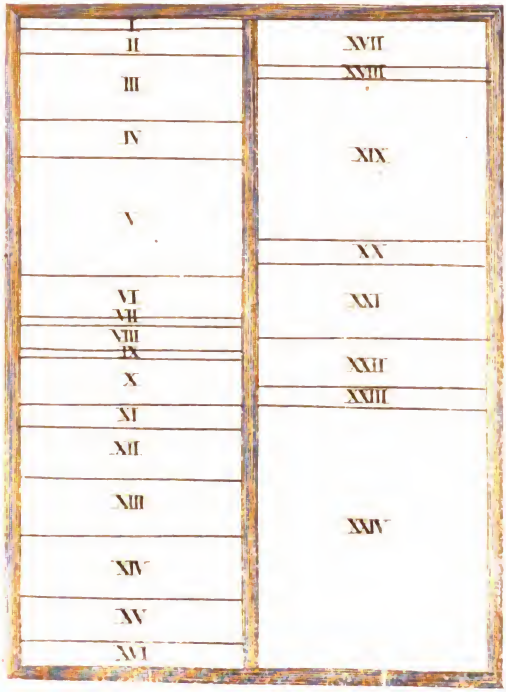


Fig. 4.



Vegetable Cabinet



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PLOUDAMEL, a town of France, in the department of the Finisterre; 3 m. S. of Lesneven.

PLOUER, a town of France, in the dep. of the North Coasts; 4½ miles NNE. of Dinan, and 1 ESE. of Lamballe.

(1.) * PLOVER. *n. s.* [*pluvier*, Fr. *pluvialis*, at.] A lapwing. A bird.—Of wild birds, Cornall hath quail, rail, partridge, pheasant and *plover*. *Carew.*—

The bittern knows his time: or from his shore
The *plover*, when to scatter o'er the heath
And sing. *Thomson's Spring.*

(2.) PLOVER. See CHARADRIUS, N° 3, 9, 12, 3. These birds usually fly in exceedingly large ocks in the places they frequent; 20,000 or 30,000 have been seen in a flock. They generally come to us in Sept. and leave us about the end of March. In cold weather they are found very commonly on lands lying near the sea, in quest of food; but in thaws and open seasons they go higher up in the country. They feed on plowed lands, and are very cleanly. When they roost, they squatting on the ground like ducks or geese, from trees or hedges, when the weather is calm; but when it is stormy, they often get under shelter. In wet weather they do not sleep in the night at all, but run about picking up the worms as they crawl out of the ground; during this feeding they are continually making a small cry, that serves to keep them together; and in the morning they take flight. Plovers are very easily taken at the time of their first coming over, when they have not got any other birds mixed among them; but when they afterwards pick up the teal and other shy birds among them, it becomes more difficult. The best season for taking them is in the beginning of Oct. After this they grow timorous, and are not easily taken again till March, which is the time of their coupling. The NW. wind is disadvantageous to the taking of them; and in general, great regard is to be paid to the course of the wind in the setting of the nets. All water-fowls fly against the wind when the land lies that way; and the nets for taking them are therefore to be placed in a proper direction, accordingly.

PLOUERDAT, a town of France, in the dep. of the Morbihan, 12 miles W. of Pontivy.

PLOUEZOCH, a town of France, in the dep. of the Finisterre; 4 miles N. of Morlaix, and 7½ E. of St Pol de Leon.

PLOUGASTEL, a town of France, in the dep. of the Finisterre, 4½ miles E. of Brest, and 6 SE. of Landerneau.

(1.) * PLOUGH. *n. s.* [*plog*, Saxon; *plog*, Danish; *ploegh*, Dutch.] 1. The instrument with which the furrows are cut in the ground to receive the seed.—

Proud-lin'd loiterers, that never sow;
Nor put a plant in earth, nor use a *plow*. *Chapm.*

Look how the purple flower, which the *plough*
With shorn in sunder, languishing do die. *Peach.*

Some *ploughs* differ in the length and shape of their beams. *Mort.*—

In ancient times the sacred *plough* employed
The kings and awful fathers. *Thomson.*

Tillage; culture of land. 3. A kind of plane. *Ainsworth.*

(2.) PLOUGH is by others defined, a machine for turning up the soil by the action of cattle, contrived to save the time, labour, and expence, which, without this instrument, must have been employed in digging the ground, and fitting it for receiving all sorts of seed. See RURAL OECONOMY.

(3.) PLOUGH, DRILL. See DRILL SOWING. In the Gentleman's Magazine for July 1793, p. 601, Mr Wickins of Pondhead Lodge, New Forest, gives an account of a simplified drill plough, invented by himself. Its importance is increased, he thinks, by the cheapness and easy construction of it, because it can be used upon a small scale by a single man, and upon a larger scale by two men, or a man and boy; so that the inconvenience suffered by horses trampling the ground, &c. is hereby avoided. To the drill for sowing is occasionally annexed a blade for hoeing between the rows: "the good effects of which (says Mr Wickins) are no less obvious from its nurturing the growth of the corn, and producing collateral shoots from the application of fresh soil, but also from its affording the means of extirpating the weeds which are so obnoxious to it." He informs us likewise, that his single hand-drill hath been seen and approved by the Bath Society; and they have in consequence voted him an honorary and corresponding member. Since that time he says, he has very materially improved and simplified it.

(4.) PLOUGH, GENERAL FORM OF THE. The general form of the body of a plough is that of a wedge, or very blunt chissel, AFEDBC, (*fig.* 1. *Plate* CCLXXVII,) having the lower corner D of its edge considerably more advanced than the upper corner B; the edge BD and the whole back AFDB is in the same perpendicular plane; the bottom FDB approaches to a triangular form, acute at D, and square at F; the surface BCED is of a complicated shape, generally hollow, because the angle ABC is always greater than FDE: this consequence will be easily seen by the mathematician. The back is usually called the LAND SIDE by the ploughmen, and the base FDE is called the SOLE, and FE the HEEL, and BCED the mould-board. Lastly, the angle AFE is generally square, or a right angle, so that the sole has level both as to length and breadth. By comparing this form with attention, the reader will perceive that if this wedge is pulled or pushed along in the direction FD, keeping the edge BD always in the perpendicular cut, which has been previously made by the coulter, the point D will both raise the earth and shove it to one side and twist it over; and, when the point has advanced from F to D, the sod, which formerly rested on the triangle DFE, will be forced up along the surface BCED, the line DF, rising into the position D *f*, and the line EF into the position E *f*.—Had the bottom of this furrow been covered with a bit of cloth, this cloth would be lying on the mould-board, in the position D *f* E: the slice, thus deranged from its former situation, will have a shape something like that represented in *fig.* 2. As the wedge raises the earth, the earth presses down the wedge; and as the wedge pushes the earth to the right hand, the earth presses the wedge to the left; and thus the plough is strongly pressed, both to the bottom of the furrow by its sole, and also to the firm land by

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by its back or land ſide. In ſhort, it is ſtrongly ſqueezed into the angle formed along the line FD (*fig.* 1.) by the perpendicular plane *a b* DF and the horizontal plane FDE; and in this manner the furrow becomes a firm groove, directing the motion of the plough, and giving it a reſiſting ſupport, by which it can perform all parts of its taſk. We beg our readers to keep this circumſtance conſtantly in mind. It evidently ſuggeſts a fundamental maxim in the conſtruction, namely, to make the land-ſide of the plough an exact plane, and to make the ſole, if not a plane, at leaſt ſtraight from point to heel. Any projection would tear up the ſupporting planes, deſtroy the directing groove, and expend force in doing miſchief. This wedge is ſeldom made of one piece. To give it the neceſſary width for removing the earth would require a huge block of timber. It is therefore uſually framed of ſeveral pieces, which we ſhall mention in the language of the art.

(5.) PLOUGH, PARTS OF MR SMALL'S. Fig. 3. repreſents the land-ſide of a plough, ſuch as are made by James Small at Roſebank, near Foord, Mid Lothian. The baſe of it, CM, is a piece of hard wood, pointed before at C to receive a hollow ſhoeing of iron CO, called the SOCK, and tapering a little towards the hinder end, M, called the HEEL. This piece is called the HEAD of the plough. Into its fore part, juſt behind the ſock, is mortiſed a ſloping poſt, AL, called the SHEATH, the front of which is worked ſharp, forming the edge of the wedge. Nearer the heel there is mortiſed another piece, PQ, ſloping far back, called the STILT, ſerving for a handle to the ploughman. The upper end of the ſheath is mortiſed into the long BEAM RH, which projects forward, almoſt horizontally, and is mortiſed behind into the ſtilt. To the fore end of the beam are the cattle attached. The whole of this ſide of the wedge is faſhioned into one plain ſurface, and the intervals between the pieces are filled up with boards, and commonly covered with iron plates. The COULTER, WFE, is firmly fixed by its ſhank, W, into the beam, rakes forward at an angle of 45° with the horizon, and has its point E about ſix inches before the point of the ſock. It is brought into the ſame vertical plane with the land ſide of the plough, by giving it a knee outward immediately below the beam, and then kneeing it again downward. It is further ſupported on this ſide by an iron ſtay FH, which turns on a pin at F, paſſes through an eye-bolt I on the ſide of the beam, and has a nut ſcrewed on it immediately above. When ſcrewed to its proper ſlope, it is firmly wedged behind and before the ſhank.—Fig. 4. repreſents the ſame plough viewedfrom above. ST is the right hand or ſmall ſtilt fixed to the inſide of the mould-board LV. *Fig.* 5. repreſents the bottom of the wedge. CM is the head, covered at the point by the ſock. Juſt behind the ſock there is mortiſed into the ſide of the head a ſmaller piece DE, called the wreſt, making an angle of 16° with the land-ſide of the head, and its outſide edge is in the ſame ſtraight line with the ſide of the ſock. From the point to the heel of the head is about 33 inches, and the extreme breadth of the heel is about nine. The ſide of the wedge, called the furrow ſide, is formed by the mould-board, which is either made of a bent plank of wood, or of a thick iron plate. The ſock drawn in this figure is called a SPEAR SOCK, and is chiefly uſed in coarſe or ſtony ground, which requires great force to break it up. Another form of the ſock is repreſented in the next figure, *fig.* 6. This is called a FEATHER SOCK, and has a cutting edge CF on its furrow ſide, extending back about ten inches, and to the right hand or furrow ſide about ſix. The uſe of this is to cut the ſod below, and detach it from the ground, as the coulter detaches it from the unplowed land.

(6.) PLOUGH, THE REV. MR CAMPBELL'S IMPROVED. We ſhall conclude this article with an account of a plough, recommended by the Scots Highland Society, as extremely proper for a hilly country. The inventor, the Rev. Alex. Campbell, miniſter at Kilcalmonell in Argyleſhire, was honoured with the Society's gold medal, value L 25. A, the ſock (*fig.* 7.); the land-ſide of which ſupplies the place of the coulter, and the ſole of it ſerves for a feather; it is 18 inches long, and is made of a plate of iron 12 inches broad when finiſhed, and ſomewhat under half an inch thick.—B, the head; to be made of iron in a triangular form, 4 inches broad by 2 inches at the thickeſt part. There are 5 inches of the head ſaved in the ſock.—C, the beam, 4 inches thick by 3 inches deep, gradually tapered thinner: the length 6 feet.—E, the ſheath, muſt be of the ſame thickneſs with the beam above and the head below, and is five inches broad. An iron ſcrew-bolt connects the beam and head behind the ſheath.—F, the handles are ſo made that the ſlope of the mould-board, which is fixed to one of them, may be the longer and more gradual. They are each 8 inches long, and 2 feet 4 inches aſunder at the ends.—G, the mould-board, conſiſts of ſeveral ſticks 2 inches in diameter; the covert of them lie in the plane of the ſole, the reſt in ſucceſſion above to each other above it. This makes the mould-board 14 inches broad. To prevent any earth from getting over the mould-board, a thin plate 4 or 5 inches broad is fixed above it. The mould-board, land-ſide, and ſole of the plough, are cased with iron.—The length is 20 inches: this adds 18 inches, the length of the ſock, makes the length from point to heel 3 feet 2 inches.—The muzzle or bridle OPH is alſo of a more convenient and better conſtruction than thoſe commonly in uſe. By means of the ſcrew-pins at L and M different degrees of land may be given to the plough; the iron rod LH being thereby moveable ſidewiſe in the ſocket LN, and up and down at OP. The rod is 30 inches long, one broad and half an inch thick. It is hooked into a ſocket at H. Two inches of the rod project at N in the form of an eye, before the muzzle, to receive the hook of the croſs-tree. The advantages of this plough are ſaid to be: It is not ſo liable to be interrupted or turned out of its courſe by the roots, &c. as other ploughs are; nor does it go ſo deep as to be liable to be broken by large ſtones or flags. The motion of the muzzle is alſo thought an improvement. Another advantage it has over

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ther ploughs is, its not being so liable to be hooked up by stubble, &c. This we understand to be its chief excellency, and an object much desired in the construction of the plough. Upon the whole, we are informed that this plough is lighter, less expensive, and less liable to go out of tune than the ordinary plough, and that with it two horses can plough land which require four with any other plough. These ploughs are made by Thomas Lindsay, Abbeyhill, Edinburgh, and models are to be seen in the hall of the Highland society.

(1.) * *To* PLOUGH. *v. a.* 1. To turn up with the plough.—

Let the Volscians
Plough Rome, and harrow Italy. *Shak.*

No doubt you'd send the rogue, in fetters bound,
To work in Bridewell, or to *plough* your ground. *Dryden.*

A man may *plough*, in stiff grounds the first time lowed, an acre a day. *Mortimer.*—You find it *ughed* into ridges and furrows. *Mortimer.* 2. bring to view by the plough: with *up*.—Another of a dusky colour, near black; there are of ese frequently *ploughed up* in the fields of Wein. *Woodward.* 3. To furrow; to divide.—

When the prince her fun'ral rites had paid,
He *plough'd* the Tyrrhene seas with sails display'd. *Addison.*

With speed we *plough* the watry way,
My power shall guard thee. *Pope.*

To tear; to furrow.—

Let
Patient Octavia *plough* thy visage up
With her prepared nails. *Shak.*

2.) * *To* PLOUGH. *v. n.* To practise arain; to turn up the ground in order to sow d.—

Rebellion, insolence, sedition
We ourselves have *plough'd* for, sow'd and scatter'd,
By mingling them with us. *Shak.*

Doth the ploughman *plough* all day to sow. *Is.* viii. 24.—They only give the land one *plough*-. *Mortimer.*

PLOUGH-BOTE, *n. f.* in ancient customs, a priige granted to tenants by land-holders, of cutwood.

PLOUGH-BOY. *n. f.* [*plough* and *boy*.] A boy t follows the plough; a coarse ignorant boy. *ploughboy*, that has never seen any thing but tched houses and his parish church, imagines thatch belongs to the very nature of a house. *tt.*

PLOUGHER. *n. f.* [from *plough*.] One who ughs or cultivates ground.—The country peothemselves are great *ploughers*. *Spenser.*

PLOUGH-GANG, or PLOUGH GATE, } *n. f.* a term used in Scotland, for as much ground, ploughman will usually labour in a day.

PLOUGHING, *n. f.* in agriculture, the turnup the earth with a plough. See RURAL OEONOMY.

PLOUGHLAND. *n. f.* [*plough* and *land*.] A d for corn.—

Who hath a *ploughland* casts all his seed corn there. *Donne.*

—In this book are entered the names of the manors or inhabited townships, the number of *ploughlands* that each contains. *Hale.*

(1.) * PLOUGHMAN. *n. f.* [*plough* and *man*] 1. One that attends or uses the plough; a cultivator of corn.—

When shepherds pipe on oaten straws,
And merry larks are *ploughmen's* clocks. *Shak.*

—To serve the needs of nature by the labours of the *ploughman*. *Taylor.*—

The careful *ploughman* doubting stands.
Milton.

Your reign no less assures the *ploughman's* peace. *Waller.*

—The merchant gains by peace, and the soldiers by war, the shepherd by wet seasons, and the *ploughmen* by dry. *Temple.*—

Who can cease t' admire
The *ploughman* cousul in his coarse attire? *Dryden.*

One
My *ploughman's* is, t'other my shepherd's son. *Dryden.*

2. A gross ignorant rustick.—

Hard as the palm of *ploughman*. *Shak.*

3. A strong laborious man.—A weak stomach will turn rye bread into vinegar, and a *ploughman* will digest it. *Arbuthnot.*

(2.) PLOUGHMAN'S SPIKENARD, in botany. See BACCHARIS, and CONYZA.

* PLOUGHMONDAY. *n. f.* The Monday after twelfth-day.—

Ploughmonday, next after the twelftide is past,
Bids out with the plough, the worst husband is last. *Tusser.*

* PLOUGHSHARE. *n. f.* [*plough* and *share*.] The part of the plough that is perpendicular to the coulter.—As the earth was turned up, the *ploughshare* lighted upon a great stone. *Sidney.*—The pretty innocent walks blindfold among burning *ploughshares* without being scorched. *Addison.*

PLOUGONVEN, a town of France, in the dep. of Finisterre; 5 miles SE. of Morlaix, and 15 N. of Carhaix.

PLOUGONVERT, a town of France, in the dep. of the North Coasts; 15 miles WSW. of Guingamp.

PLOUGUENAS, a town of France, in the dep. of the North Coasts; 7 miles NNE. of Loudeac, and 13 SSW. of Lamballe.

PLOUGUERNEAU, a town of France, in the dep. of Finisterre; 6 miles NNW. of Lesneven, and 13 N. of Brest.

PLOUHA, a town of France, in the dep. of the North Coasts; 9 miles ESE. of Pontrien, and 11 SE. of Lesneven.

PLOUNEVENTER, a town of France, in the dep. of the Finisterre; 5 miles SE. of Lesneven.

(1.) PLOUNEVEZ, a town of France, in the dep. of Finisterre; 6 miles NE. of Lesneven, and 10 WSW. of Pol de Leon.

(2.) PLOUNEVEZ DE FAOU, a town of France, in the dep. of the Finisterre; 10 miles W. of Carhaix, and 10½ E. of Chateaulin.

PLOUVARD, a town of France, in the dep. of the North Coasts 6 miles W. of St Brieux, and 7 ESE. of Guingamp.

PLOUVORN, a town of France, in the dep. of

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Finisterre; 7½ miles W. of Morlaix, and 12 NE. of Lan ierneau.

PLOUZANE, a town of France, in the dep. of Finisterre; 3 miles S. of St Renan, and 4½ W. of Brest.

PLOUZEVEDE, a town of France, in the dep. of Finisterre, 7½ miles SW. of St Pol de Leon, and 8 E. of Lesneven.

To PLOW. *v. a.* and *v. n.* See *To* PLOUGH, N° 1 and 2. This spelling is now most generally used in the verbs and participles; but PLOUGH is still retained for the noun and all its compounds and derivatives except the verbal ones.

PLOWDEN, Edmund, serjeant at law, the son of Humphrey Plowden, of Plowden, in Shropshire, of an ancient and genteel family. He was first a student at the university of Cambridge, where he studied philosophy and medicine, for 3 years. He then removed to Oxford, where, having studied about 4 years more, in 1552 he was admitted to the practice of physic and surgery: but after all gave up both, entered the Middle Temple, and began to read law. Wood says, that in 1557 he was summer reader to that society, and Lent-reader three years after, being then serjeant and oracle of the law. He died in 1584, aged 67. He married the daughter of William Sheldon, of Boley, in Worcestershire; by whom he had a son, who died soon after his father. He wrote, 1. Commentaries or Reports of divers Cases, &c. in the reigns of K. Edw. VI. Q. Mary, and Q. Elizabeth; Lond. 1571, 78, 99, 1613, &c. Written in the old Norman language. 2. Queries, or a Moot-book of cases, &c. translated, methodized, and enlarged, by H. B. of Lincoln's-Inn; Lond. 1662, 8vo.

PLOZEVET, a town of France, in the dep. of the Finisterre; 4 miles SE. of Pont Croix, and 12 W. of Quimper.

PLUCHE, Antony, an elegant writer, born at Rheims in 1668, who merited, by his engaging manners and proficiency in the belles-lettres, the appointment of humanist in the university of that city. Two years after, he obtained the professor of rhetoric's chair, and was admitted into holy orders. Clermont, Bp. of Laon, informed of his talents, gave him the direction of the college of his episcopal city. By his industry and superior knowledge, a proper order and subordination soon took place in it; but some particular opinions respecting public affairs, obliged him to resign his office. The intendant of Rouen, at the request of the celebrated Rollin, entrusted him with the education of his son. Abbé Pluche having filled that place with success and honour, left Rouen and went to Paris, where, by the patronage of some literary friends, and his own excellent writings, he acquired great reputation. He published, 1. *Le Spectacle de la Nature* (Nature Displayed), in 9 vols. in 12mo. a work equally instructive and entertaining. 2. *Histoire du Ciel*, or History of the Heavens, in 2 vols. in 12mo. in two parts: The first contains some learned inquiries into the origin of the poetic heavens. It is nearly a complete mythology. The 2d is the history of the opinions given by philosophers respecting the formation of the world. The author shows the inutility, the inconsistency, and uncertainty, of the most esteemed systems; and concludes with pointing out the excellence and sublime simplicity of the Mosaic account. 3. *De Linguarum artificio*; a work which he translated with this title, *La Mecanique des Langues*, in 12mo. 4. Harmony of the Psalms and the Gospel, or a Translation of the Psalms and Hymns of the Church, with Notes relative to the Vulgate, the Septuagint, and Hebrew Text; Paris, 1764, 12mo. In 1749, Abbé Pluche retired to Varenne St Maure, where he gave himself up entirely to devotion and study; and where he died of an apoplexy on the 20th of November 1761, aged 73. He possessed those qualities which form the scholar, and practised the morals of an honest man, and a Christian. Some Deists having been surprised that, in matters of faith, he should think and speak like the vulgar, his answer was, "I glory in doing so: It is infinitely more rational to believe the word of God, than to follow the glimmering lights of a reason which is limited and subject to error."

* PLUCK. *n. s.* [from the verb.] 1. A pull; a draw; a single act of plucking.—Birds kept coming and going all day; but so few at a time, that the man did not think them worth a *pluck*. *L'Estrange.*—Were the ends of the bones dry, they could not, without great difficulty, obey the *plucks* and attractions of the motory muscles. *Ley.* 2. [*Plughk*, Erse. I know not whether derived from the English, rather than the English from the Erse.] The heart, liver, and lights of an animal.

* *To* PLUCK. *v. a.* [*ploccian*, Sax. *plucken*, Dutch.] 1. To pull with nimbleness or force; to snatch; to pull; to draw; to force on or off; to force up or down; to act upon with violence. It is very generally and licentiously used, particularly by *Shakespeare*. It has often some particle after it as *down*; *off*; *on*; *away*; *up*; into.—It seemed better unto that noble king to plant a peaceable government among them, than by violent means to *pluck* them under. *Spenser.*—

That high royalty was ne'er *pluck'd* off. Shak.

Pluck down my officers. Shak.

Can'st thou not
Pluck from the memory a rooted sorrow? Shak.

—When youth with comeliness *plucked* all gaze his way. *Shak.*—

I gave my love a ring;
He would not *pluck* it from his finger, for the wealth
That the world masters. Shak.

You *pluck* a thousand dangers on your head. Shak.

Dive into the bottom of the deep,
And *pluck up* drowned honour by the locks. Shak.

—I will *pluck* them *up* by the roots out of my land. 2 *Chron.*—*Pluck away* his crop with his feathers. *Levit.* i. 16.—A time to *pluck up* that which is planted. *Eccluf.* iii. 2.—They *pluck off* their hair from off them. *Mic.* iii. 2.—

Dispatch 'em quick, but first *pluck* out their tongues,
Lest with their dying breath they sow sedition. Addison.

Beneath this shade the weary peasant lies,
Plucks the broad leaf. Gay.

From

From the back
Of herds and flocks, a thousand tugging bills
Pluck hair and wool. *Thomson.*

1. To strip of feathers.—Since I *pluckt* geese, I knew not what it was to be beaten. *Shak.*—
I come to thee from plume-*pluck'd* Richard. *Shak.*

2. *To pluck up* a heart or spirit. A proverbial expression for taking up or resuming of courage.—He wished them to *pluck up* their hearts, and make all things ready for a new assault. *Knolle's Hist. of the Turks.*

PLUCKEMIN, a trading town of New Jersey, in Somerset county, 28 miles N. of Princeton: so named from one of its first inhabitants, an old Irishman, who was noted for his address in *taking in* strangers.

* PLUCKER. *n. s.* [from *pluck.*] One that plucks.—
Thou setter up and *plucker* down of kings! *Shak.*
—Let the *pluckers* tie it up in handfuls. *Mortimer.*

(1.) PLUDENTZ, a county of Germany, in the Tyrolese, purchased, with its capital, in 1376, by Leopold D. of Austria.

(2.) PLUDENTZ, the capital of the above county, is seated on the Ill, in a pleasant plain; 65 miles W. of Innspruck, and 85 NNW. of Trent. In 1533, it was almost destroyed by an earthquake, and in 1638 it was burnt. Lon. 12. 10. E. Lat. 47. 10. N.

PLUDESCH, a town of Tyrol, in the county of Pludentz; 6 miles N. of Pludentz.

(1.) PLUE, a lake of North America. Lon. 93. 30. W. Lat. 48. 50. N.

(2.) PLUE, or LA PLUE, a river of N. America, which runs from lake La Plue into the Lake of the Woods.

(1.) * PLUG. *n. s.* [*plugg*, Swedish; *plugghe*, Dutch.] A stopple; any thing driven hard into another body to stop a hole.—Shutting the valve with the *plug*, draw down the sucker to the bottom. *Boyle.*—The fighting with a man's own shadow, consists in the brandishing of two sticks grasped in each hand, and loaden with *plugs* of lead at either end. *Addison.*—In bottling wine, fill your mouth full of corks, together with a large *plug* of tobacco. *Swift.*

(2.) PLUGS, in naval affairs, pieces of timber, formed like the frustum of a cone, and used to stop the hause-holes and the breaches made in the body of a ship by cannon balls; the former are called *hause plugs*, the latter *shot plugs*, and are formed of various sizes, in proportion to the holes made by the different sizes of shot, which may penetrate the ship's sides or bottom in battle. They are always ready for this purpose.

* *To* PLUG. *v. a.* [from the noun.] To stop with a plug.—A tent *plugging* up the orifice. *Sharp.*

PLUKENET, Leonard, an English physician, born in 1642, one of the most excellent and laborious botanists of any age. He was author of *Phytographia Plucenetiana*, a work much esteemed, *Almagestium Botanicum*, and other works of the like kind, on which he spent the greatest part of his life and fortune. He was appointed superintendant of the garden at Hampton Court, by Charles II. with the title of Royal professor of Botany. He died about 1706. His *Opera Botanica*, with cuts, were printed at London in 6 vols. folio, in 1720.

PLUKENETIA, in botany, a genus of the monadelphia order, belonging to the monoecia class of plants; and in the natural method ranking in the 38th order, *Tricoccæ*.

(1.) * PLUM. *n. s.* [*plum*, *plumtreow*, Sax. *blumme*, Danish.] A custom has prevailed of writing *plumb*, but improperly. 1. A fruit.—The flower consists of 5 leaves, which are placed in a circular order, and expand in form of a rose, from whose flower-cup rises the pointal, which afterwards becomes an oval or globular fruit, having a soft fleshy pulp, surrounding an hard oblong stone, for the most part pointed; to which should be added, the footstalks are long and slender, and have but a single fruit upon each. The species are; 1. The jeanhative, or white primordian. 2. The early black damask, commonly called the Morrocco *plum*. 3. The little black damask *plum*. 4. The great damask violet of Tours. 5. The Orleans *plum*. 6. The Fotheringham *plum*. 7. The Perdrigon *plum*. 8. The violet Perdrigon *plum*. 9. The white Perdrigon *plum*. 10. The red imperial *plum*, sometimes called the red bonum magnum. 11. The white imperial bonum magnum; white Holland or Mogul *plum*. 12. The Cheston *plum*. 13. The apricot *plum*. 14. The maitre claude. 15. La roche courbon, or diaper rogue; the red diaper *plum*. 16. Queen Claudia. 17. Myrobalan *plum*. 18. The green gage *plum*. 19. The cloth of gold *plum*. 20. St Catharine *plum*. 21. The royal *plum*. 22. La mirabelle. 23. The Brignole *plum*. 24. The empress. 25. The monsieur *plum*: this is sometimes called the Wentworth *plum*, both resembling the bonum magnum. 26. The cherry *plum*. 27. The white pear *plum*. 28. The muscle *plum*. 29. The St Julian *plum*. 30. The black bullace-tree *plum*. 31. The white bullace-tree *plum*. 32. The black-thorn or sloe-tree *plum*. *Miller.*—Philosophers in vain enquired, whether the summum bonum consisted in riches, bodily delights, virtue or contemplation? they might as reasonably have disputed, whether the best relish were in apples, *plums* or nuts? *Locke.* 2. Raisin; grape dried in the sun.—
I will dance and eat *plums* at your wedding. *Shak.*
3. [In the cant of the city.] The sum of one hundred thousand pounds.—By the present edict, many a man in France will swell into a *plum*, who fell several thousand pounds short of it the day before. *Addison.*—
The miser must make up his *plum*. *Prior.*
—By fair dealing John had acquired some *plums*, which he might have kept, had it not been for his law-suit. *Arbuthnot.*—
Alas: they fear a man will cost a *plum*. *Pope.*
4. A kind of play, called How many *plums* for a penny? *Ainsw.*

(2.) PLUM, BAY. See PSIDIUM.

(3.) PLUM, BRASILIAN. See SPONDIAS.

(4.) PLUM, COCOA. See CHRYSOBALANUS.

(5.) PLUM, INDIAN DATE. See DIOSPYROS.

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§6.) PLUM, PICHUMON. See DIOSPYROS, N° 2.

(7.) PLUM-TREE, in botany. See PRUNUS.

(1.) * PLUMAGE. *n. ſ.* [*plumage*, Fr.] Feathers; ſuit of feathers.—The *plumage* of birds exceeds the pilofity of beaſts. *Bacon.*—

Say, will the falcon, ſtooping from above,
Smit with her varying *plumage*, ſpare the dove?
Pope.

(2.) PLUMAGE, the covering of birds. See ORNITHOLOGY. *Sect.* I, § III.

PLUMAU, a town of Auſtria, 7 m. NW. of Hooren.

(1.) * PLUMB. *n. ſ.* [*plomb*, Fr. *plumbub*, Lat.] A plummet; a leaden weight let down at the end of a line.—If the *plumb* line hang juſt upon the perpendicular, when the level is ſet flat down upon the work, the work is level. *Moxon's Mec. Exerc.*

(2.) * PLUMB. *adv.* [from the noun.] 1. Perpendicularly to the horizon.—

Flutt'ring his pennons vain, *plumb* down he falls. *Milton.*

—If all theſe atoms ſhould deſcend *plumb* down with equal velocity, being all perfectly ſolid and imporous, and the vacuum not reſiſting their motion, they would never the one overtake the other. *Ray on the Creation.* 2. It is uſed for any ſudden deſcent, a *plumb* or perpendicular being the ſhort paſſage of a falling body. It is ſometimes pronounced ignorantly *plump*.—Is it not a ſad thing to fall thus *plumb* into the grave? well one minute and dead the next. *Collier.*

(3.) PLUMB ISLAND, an iſland near the coaſt of Maſſachuſetts, abounding with beach plum trees; about 9 miles long, and half a mile broad; extending from the mouth of the Ipſwich to that of the Merrimack, on the S. ſide; and ſeparated from the main land by a narrow ſound. It has light-houſes on the N. end, and the remains of a fort; beſides ſeveral houſes erected by the Marine Society, and provided with fuel and other neceſſaries, for the relief of thoſe who may be ſhipwrecked on the coaſt. Lon. 70. 47. W. Lat. 42. 25. to 43. 4. N.

(4.) PLUMB ISLAND, an iſland of New York, on the NE. coaſt of Long Iſland, about a mile from South-hold, containing ſeven families, and 800 acres; which are fertile, and produce wheat, corn, and paſture; feed ſheep and black cattle; and thence abound with butter, cheeſe and wool.

(5.) PLUMB LINE, among artificers, denotes a perpendicular to the horizon; ſo called, as being commonly erected by means of a plummet. See PLUMMET, § 2.

* *To* PLUMB. *v. a.* [from the noun.] 1. To ſound; to ſearch by a line with a weight at its end.—The moſt experienced ſeamen *plumbed* the depth of the channel. *Swift.* 2. To regulate any work by the plummet.

(1.) PLUMBAGO, in botany, LEAD-WORT; a genus of the monogynia order, belonging to the pentandria claſs of plants. There are 4 ſpecies; the moſt remarkable are

1. PLUMBAGO EUROPEA. It grows naturally in the S. of Europe, and has a perennial root ſtriking deep in the ground. There are many ſlender channelled ſtalks, about three feet high, terminated by tufts of ſmall funnel-ſhaped flowers, of a blue or white colour. It is propagated by ſeeds, and by parting the roots.

2. PLUMBAGO ZEYLONICA grows naturally in both the Indies. The upper part of the ſtalk and empalement are covered with a glutinous juice, which catches the ſmall flies that light upon it. It is too tender to thrive in the open air in this country.

(II.) PLUMBAGO, in mineralogy, Black Lead, or *Carburet of Iron*, as it is now called by Chemiſts. See CHEMISTRY, *Index*; LEAD N° III; and MINERALOGY, *Part* II. *Chap.* VII. *Claſs* IV. *Ord.* VI. *Gen.* III. *Sp.* 1.

(1.) * PLUMBER. *n. ſ.* [*plombier*, Fr.] One who works upon lead. Commonly written and pronounced *plummer*.

(2.) PLUMBER, in geography, a town of Dorſetſhire, on the Direliſh, 2½ miles from Lidlinch.

(1.) * PLUMBERY. *n. ſ.* [from *plumber*.] Works of lead; the manufactures of a plumber. Commonly ſpelt *plummery*.

(2.) PLUMBERY, is the art of caſting and working lead, and uſing it in building. As this metal melts ſoon and with little heat, it is eaſy to caſt it into figures of any kind, by running it into moulds of braſs, clay, plaſter, &c. But the chief articles in plumbery are ſheets and pipes of lead; which make the baſis of the plumbers work. In caſting *ſheet-lead*, a table or mould is made uſe of, which conſiſts of large pieces of wood well jointed, and bound with bars of iron at the ends; on the ſides of which runs a frame conſiſting of a leege or border of wood, 3 inches thick and 4 inches high from the mould, called the *ſharps*: The ordinary width of the mould, within theſe ſharps, is from 4 to 5 feet; and its length is 16, 17, or 18 feet. This ſhould be ſomething longer than the ſheets are intended to be, that the end where the metal runs off from the mould may be cut off, becauſe it is commonly thin or uneven, or ragged at the end. It muſt ſtand very level in breadth, and ſomething falling from the end in which the metal is poured in, viz. about an inch or an inch and a half in the length of 16 or 17 feet or more, according to the thinneſs of the ſheets wanted; for the thinner the ſheet, the more declivity the mould ſhould have. At the upper end of the mould ſtands the pan, which is a concave triangular piece, compoſed of two planks nailed together at right angles, and two triangular pieces fitted in between them at the ends. The length of this pan is the whole breadth of the mould in which the ſheets are caſt; it ſtands with its bottom, which is a ſharp edge, on a form at the end of the mould, leaning with one ſide againſt it; and on the oppoſite ſide is a handle to lift it up by, to pour out the melted lead; on that ſide of the pan next the mould are two iron hooks to take hold of the mould, and prevent the pan from ſlipping while the melted lead is pouring out of it into the mould. This pan is lined on the inſide with moiſtened ſand, to prevent it from being fired by the hot metal. The mould is alſo ſpread over, about two inches thick, with ſand ſifted and moiſtened, which is rendered perfectly level by moving over it a piece of wood called a *ſtrike*, and ſmoothing it over with a ſmoothing plane, which is a piece of poliſhed braſs, about one-4th of an inch thick and 9 inches ſquare, turned up on all the 4 edges, and with a handle fitted on to the upper or out-

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e ſide. The ſand being thus ſmoothed, it is fit caſting ſheets of lead: but if they would caſt iſtern, they meaſure out the bigneſs of the four s; and having taken the dimenſions of the it or fore-part, make mouldings by preſſing g ſlips of wood, which contain the ſame moul-gs, into the level ſand; and form the figures of ls, beaſts, &c. by preſſing in the ſame manner len figures upon it, and then taking them off, at the ſame time ſmoothing the ſurface where of the ſand is raiſed up by making theſe impreſ-s upon it. The reſt of the operation is the e in caſting either ciſterns or plain ſheets of . But before we proceed to mention the man-in which that is performed, it will be neceſſa-o give a more particular deſcription of the e. The ſtrike, then, is a piece of board about ches broad, and ſomething longer than the dth of the mould on the inſide; and at each is cut a notch about two inches deep, ſo that n it is uſed it rides upon the ſharps with thoſe hes. Before they begin to caſt, the ſtrike is e ready by tacking on two pieces of an old on the notches, or by ſlipping a caſe of leather each end, to raiſe the under ſide about one of an inch or more above the ſand, according ey would have the ſheet to be in thickneſs; they tallow the under edge of the ſtrike, and it acroſs the mould. The lead being melted, put into the pan with ladles, in which, when e is a ſufficient quantity for the preſent pur-, the ſcum of the metal is ſwept off with a e of board to the edge of the pan, letting it e on the ſand, which is thus prevented from ng into the mould at the pouring out of the al. When the lead is cool enough, which be regulated according to the thickneſs of ſheets wanted, and is known by its beginning and with a ſhell or wall on the ſand round the two men take the pan by the handle, or elſe of them lifts it by the bar and chain fixed to a n in the ceiling, and pour it into the mould, e another man ſtands ready with the ſtrike, as ſoon as they have done pouring in the me-puts on the mould, ſweeps the lead forward, draws the overplus into a trough prepared to ive it. The ſheets being thus caſt, nothing re-s but to roll them up or cut them into any ſure wanted: but if it be a ciſtern, it is bent four ſides, ſo that the two ends may join the , where they are ſoldered together; after h the bottom is ſoldered up. II. *To caſt* PIPES, *out ſoldering*, they have a little mill, with arms evers to turn it withal. The moulds are of , and conſiſt of two pieces, which open and by hooks and hinges, their inward caliber or eter being according to the ſize of the pipe, ly two feet and a half. In the middle is ed a core or round piece of braſs or iron, ewhat longer than the mould, and of the thick-of the inward diameter or the pipe. This is paſſed through two copper rundles, one at end of the mould, which they ſerve to cloſe; to theſe is joined a little copper tube about inches long, and of the thickneſs the leaden is intended to be of. By means of theſe s the core is retained in the middle of the ca-of the mould. The core being in the mould, with the rundles at its two ends, and the lead melted in the furnace, they take it up in a ladle, and pour it into the mould by a little aperture at one end, made in the form of a funnel. When the mould is full, they paſs a hook into the end of the core, and, turning the mill, draw it out; and then opening the mould, take out the pipe. If they deſire to have the pipe lengthened, they put one end of it in the lower end of the mould and paſs the end of the core into it; then ſhut the mould again and apply its rundle and tube as before, the pipe juſt caſt ſerving for a rundle, &c. at the other end. Things being thus replaced, they pour in freſh metal, and repeat the operation till they have got a pipe of the length required. For making pipes of ſheet-lead, the plumbers have wooden cylinders, of the length and thickneſs required; and on theſe they form their pipes by wrapping the ſheet around them, and ſoldering up the edges all along them. The lead which lines the Chineſe tea-boxes is reduced to a thinneſs which we are informed European plumbers cannot imitate. The following account of the proceſs by which the plates are formed was communicated to a writer in the Gentleman's Magazine by an intelligent mate of an Eaſt Indiaman. The caſter ſits by a pot containing the melted metal; and has two large ſtones, the under one fixed, the upper moveable, directly before him. He raiſes the upper ſtone by preſſing his foot upon the ſide of it, and with an iron ladle pours into the opening a proper quantity of the fluid metal. He then immediately lets fall the upper ſtone, and by that means forms the lead into a thin irregular plate, which is afterwards cut into a proper ſhape. The ſurfaces of the ſtones, where they touch each other, are exactly ground together.

PLUMB-PUDDING. See PLUMPUDDING, N° 1. and 2.

(1.) PLUMBUM, [Lat.] LEAD. See LEAD.

(2.) PLUMBUM CORNEUM, a combination of lead with the marine acid. See CHEMISTRY.

* PLUMCAKE. *n. ſ.* [*plum* and *cake*.] Cake made with raiſins.—

He cramm'd them till their guts did ake
With caudle, cuſtard and *plumcake*. *Hudib.*

(1.)* PLUME. *n. ſ.* [*plume*, Fr. *pluma*, Lat.] 1. Feather of birds.—

We'll pull his *plumes*, and take away his train.
Shak.

Wings he wore of many a coloured *plume*.
Milt.

—They appear made up of little bladders, like thoſe in the *plume* or ſtalk of a quill. *Grew's Muſæum.* 2. Feather worn as an ornament; *Chapman* uſes it for a creſt at large.—

Your enemies with nodding of their *plumes*
Fan you into deſpair. *Shak. Coriolanus.*

With this againe, he ruſht upon his gueſt,
And caught him by the horſe-haire *plume*, that dangl'd on his creſt. *Chapman.*

—Oſtridges feathers are common, and the ordinary *plume* of Janizaries. *Brown.*—

His high *plume* that nodded o'er his head.
Dryden.

3. Pride; towering mein.—

Great Duke of Lancaſter, I come to thee
From *plume*-pluckt Richard. *Shak. Rich. II.*

4.

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4. Token of honour; prize of conteſt.—

Ambitious to win from me ſome *plume*. *Milt.*

5. *Plume* is a term uſed by botaniſts for that part of the ſeed of a plant, which in its growth becomes the trunk: it is incloſed in two ſmall cavities, formed in the lobes for its reception, and is divided at its looſe end into divers pieces, all cloſely bound together like a bunch of feathers, whence it has this name. *Quincy*.

(2.) PLUME, in botany, (§ 1, *def.* 5.) See GEMMA.

(3.) PLUME, in geography, a town of France, in the dep. of Lot and Garonne; 7 miles SW. of Agen.

* *To* PLUME. *v. a.* [from the noun.] 1. To pick and adjuſt feathers.—Swans muſt be kept in ſome encloſed pond, where they may have room to come aſhore and *plume* themſelves. *Mort.* 2. [*Plumer*, Fr.] To ſtrip of feathers.—Such animals, as feed upon fleſh, devour ſome part of the feathers of the birds, becauſe they will not take pains fully to *plume* them. *Ray.* 3. To ſtrip; to pill.—The king cared not to *plume* the nobility and people to feather himſelf. *Bacon.* 4. To place as a plume.—

His ſtature reach'd the ſky, and on his creſt
Sat horror *plum'd*. *Milton's Par. Loſt.*

5. To adorn with plumes.—

Farewell the *plumed* troops. *Shak. Othello.*

* PLUMEALLUM. *n. ſ.* [*alumen plumoſum*, Lat.] A kind of aſbeſtus.—*Plumeallum*, formed into the likeneſs of a wick, will adminiſter to the flame, and yet not conſume. *Wilkins.*

PLUMELEC, a town of France, in the dep. of Morbihan; 7½ miles SSW. of Joſſelin, and 11 NE. of Vannes.

PLUMELIAU, a town of France, in the dep. of the Morbihan; 6 miles S. of Pontivy and 8 NE. of Orient.

PLUMENTAAL, a town of Germany, in Auſtria; 4 miles W. of Ziſterdorf.

PLUMERIA, in botany, *Red Jaſmine*, a genus of the monogynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 30th order, *Contortæ*.

PLUMIER, Charles, a learned Minim, born at Marſeilles, and one of the moſt able botaniſts of the 17th century. He was inſtructed by the famous MAIGNAN, who taught him mathematics, turnery, the art of making ſpectacles, burning-glaſſes, microſcopes, &c. He at length went to Rome, and applied himſelf entirely to botany under a ſkilful Italian. At his return to Provence, he ſettled in the convent at Bormes, a maritime place near Hieres, where he made diſcoveries in the fields with reſpect to ſimples. He was ſent by the French king to America, to bring from thence ſuch plants as might be of ſervice in medicine. He made three different voyages to the Antilles, and ſtopped at the iſland of St Domingo. The king gave him a penſion; and he at laſt ſettled at Paris. Preparing to go a 4th time to America, he died at the port of Santa Maria, near Cadiz, in 1706. He wrote ſeveral excellent works; the chief are, 1. A volume of the Plants in the American Iſlands. 2. A Treatiſe on the American Fern. 3. The Art of Turnery; a curious work embelliſhed with plates.

* PLUMIGEROUS. *adj.* [*pluma* and *gero*, Lat.] Having feathers; feathered. *Diſt.*

* PLUMIPEDE. *n. ſ.* [*pluma* and *pes*, Lat.] A fowl that has feathers on the foot. *Diſt.*

(1.) * PLUMMET. *n. ſ.* [from *plomb*.] A weight of lead hung at a ſtring, by which depths are ſounded, and perpendicularity is diſcerned.—

Deeper than did ever *plummet* ſound,
I'll drown my book. *Shak. Temp.*

Fly, envious time,
Call on the lazy leaden-ſtepping hours,
Whoſe ſpeed is but the heavy *plummet's* pace.
Milton.

2. Any weight.—God ſees the body of fleſh which you bear about you, and the *plummets* which hangs upon your ſoul. *Duppa's Rules.*—The heavineſs of theſe bodies muſt be counterpoiſed by a *plummet* faſtened about the pulley on the axis: the *plummet* will deſcend according as the ſand does make the ſeveral parts of the wheel lighter or heavier. *Wilkins.*

(2.) PLUMMET, PLUMB RULE, or PLUMB LINE, an inſtrument uſed by carpenters, maſons, &c. in order to judge whether walls, &c. be upright planes, horizontal, or the like. It is thus called from a piece of lead, faſtened to the end of a chord, which uſually conſtitutes this inſtrument. Sometimes the ſtring deſcends along a wooden ruler, &c. raiſed perpendiculary on another; in which caſe it becomes a level.

PLUMMING, *n. ſ.* among miners, is the method of uſing a mine-dial, in order to know the exact place of the work where to ſink down an air-ſhaft, or to bring an adit to the work, or to know which way the load inclines when any flexure happens in it. It is thus performed. A skilful perſon with an aſſiſtant, and with pen, ink and paper, and a long line, and a ſun-dial, after his gueſs of the place above ground, deſcends into the adit or work, and there faſtens one end of the line to ſome fixed thing in it; then the inclined needle is let to reſt, and the exact point where it reſts is marked with a pen: he then goes on farther in the line ſtill faſtened, and at the next flexure of the adit he makes a mark on the line by a knot or otherwiſe: and then letting down the dial again, he there likewiſe notes down that point at which the needle ſtands in this ſecond poſition. In this manner he proceeds, from turning to turning, marking down the points, and marking the line, till he comes to the intended place: this done, he aſcends and begins to work on the ſurface of the earth what he did in the adit, bringing the firſt knot in the line to ſuch a place where the mark of the place of the needle will again anſwer its pointing, and continues this till he come to the deſired place above ground, which is certain to be perpendicular over that part of the mine under which the air ſhaft is to be ſunk.

PLUMOSE, *adj.* formed in the manner of a feather, with a ſtem and fibres iſſuing from it on each ſide; ſuch are the antennæ of certain moths, butterflies, &c.

* PLUMOSITY. *n. ſ.* [from *plumoſus*.] The ſtate of having feathers.

* PLUMOUS. *adj.* [*plumeux*, Fr. *plumoſus*, Lat.] Feathery; reſembling feathers.—This has a ſoft *plumous* body in the middle, but finer. *Woodw.*

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(1.) * PLUMP. *adj.* [Of this word the etymology is not known. *Skinner* derives it from *pomple*, Fr. full like a ripe apple; it might be more ily deduced from *plum*, which yet ſeems very rſh. *Junius* omits it.] Somewhat fat; not lean; ek; full and ſmooth.—The heifer, that valued lf upon a ſmooth coat and a *plump* habit of dy, was taken up for a ſacrifice. *L'Eſtrange.*—

Plump gentleman,
Get out as faſt as e'er you can. *Prior.*

The famiſh'd crow
Grows *plump* and round, and full of mettle. *Swift.*

2.) * PLUMP. *adv.* [Probably corrupted from *mb*, or perhaps formed from the ſound of a ne falling in the water.] With a ſudden fall.—

Or to ſome river take 'em
Plump, and ſee if that would wake 'em. *Ben Jonſon.*

3.) * PLUMP. *n. ſ.* [from the adjective.] A ot; a tuft; a cluſter; a number joined in one ſs. I believe it is now corrupted to *clump*.—gland, Scotland, Ireland lie all in a *plump* toher, not acceſſible but by ſea. *Bacon.*—Warck having eſpied certain *plumps* of Scottiſh ſemen ranging the field, returned towards the iere to prevent danger. *Hayward.*—We reſted der a *plump* of trees. *Sandys.*—

A *plump* of fowl behoid their foe on high. *Dryden.*

1.) * *To* PLUMP. *v. a.* [from the adj.] To fat; to ſwell; to make large.—The particles of expanding themſelves, *plump* out the ſides of bladder. *Boyle.*—I'm as lean as carrion; but redding at your houſe will *plump* me up with od cheer. *L'Eſtrange.*—Let them lie for the w and the rain to *plump* them. *Mortimer.*

(2.) * *To* PLUMP. *v. n.* [from the adverb.] To fall like a ſtone into the water. A word med from the ſound, or rather corrupted from *mb*. 2. [from the adjective.] To be ſwollen. *n/.*

* PLUMPER. *n.*]. [from *plump*.] Something orn in the mouth to ſwell the cheeks.—

She dext'rouſly her *plumpers* draws,
That ſerve to fill her hollow jaws. *Swift.*

* PLUMPNESS. *n ſ.* [from *plump*.] Fulneſs; poſition towards fulneſs.—Thoſe convex glaſſupply the defect of *plumpneſs* in the eye. *ewton.*

* PLUMPORRIDGE. *n. ſ.* [*plum* and *porridge*.] rridge with plums.—A rigid diſſenter, who dil at his houſe on Chriſtmas day, eat very plenully of his *plumporridge*. *Addiſon.*

(1.) * PLUMPUDDING. *n. ſ.* [*plum* and *pudg*.] Pudding made with plums.

(2.) PLUMPUDDING STONE, in mineralogy. e CALLANDER, N° 1; and MINERALOGY, rt II. *Chap.* IV. *Claſs* I. *Order* III. *Sect.* II. *Gen.*

* PLUMPY. *adj.* Plump; fat. A ludicrous ord.—

Come, thou monarch of the vine,
Plumpy Bacchus, with pink eyne. *Shak.*

PLUMSTEAD, a poſt town of Pennſylvania, the W. bank of the Delaware, 36 miles N. of iladelphia.

PLUMULE, *n. ſ.* in botany, the diminutive of PLUME; the ſmall bud, germ, or embryo, in grain, from which vegetation commences; called *Acroſpire* by maltſters. See ACROSPIRE, and PLANT, § 29.

* PLUMY. *adj.* [from *plume*.] Feathered; covered with feathers.—

Satan fell, and ſtraight a fiery globe
Of angels on full ſail of wing flew nigh,
Who on their *plumy* vans receiv'd him ſoft
From his uneaſy ſtation. *Milton.*

Appear'd his *plumy* creſt, beſmear'd with blood. *Addiſon.*

—Like a quill, with the *plumy* part only upon one ſide. *Grew.*

PLUNATIA. See PIANOSA.

* PLUNDER. *n. ſ.* [from the verb.] Pillage; ſpoils gotten in war.—

Let looſe the murmuring army on their maſters,
To pay themſelves with *plunder*. *Otway.*

* *To* PLUNDER. *v. a.* [*plunderen*, Dutch.] 1. To pillage; to rob in an hoſtile way.—Nebuchadnezzar *plunders* the temple of God. *South.* 2. To take by pillage.—Being driven away, and his books *plundered*, one of his neighbours bought them in his behalf. *Fell.*—

Ships made in peace a treaſure richer far,
Than what is *plunder'd* in the rage of war. *Dryden.*

3. To rob as a thief.—

Their country's wealth our mightier miſers drain,
Or croſs, to *plunder* provinces, the main. *Pope.*

* PLUNDERER. *n. ſ.* [from *plunder*.] 1. Hoſtile pillager; ſpoiler. 2. A thief; a robber.—It was a famous ſaying of William Rufus, whoſoever ſpares perjured men, robbers, *plunderers*, and traitors, deprives all good men of their peace and quietneſs. *Addiſon.*—

What one *plund'rer* left, the next will ſeize. *Dryden.*

PLUNERET, a town of France, in the dep. of the Morbihan; 2 miles E. of Auray, and 7½ W. of Vannes.

* PLUNGE. *n. ſ.* 1. Act of putting or ſinking under water. 2. Difficulty; ſtrait; diſtreſs.—She was weary of life, ſince ſhe was brought to that *plunge*; to conceal her huſband's murder, or accuſe her ſon. *Sidney.*—People, when put to a *plunge*, cry out to heaven for help. *L'Eſtrange.*—

And wilt thou not reach out a friendly arm,
To raiſe me from amidſt this *plunge* of ſorrows? *Addiſon.*

—He muſt be a good man; a quality which Cicero and Quintilian are much at a *plunge* in aſſerting to the Greek and Roman orators. *Baker.*

(1.) * *To* PLUNGE. *v. a.* [*plonger*, Fr.] 1. To put ſuddenly under water, or under any thing ſuppoſed liquid.—

Plunge us in the flames. *Milton.*

Headlong from hence to *plunge* herſelf ſhe ſprings. *Dryden.*

2. To put into any ſtate ſuddenly.—

I mean to *plunge* the boy in pleaſing ſleep,
And raviſh'd in Idalian bow'rs to keep. *Dryd.*

3. To hurry into any diſtreſs.—

O conſcience! into what abyſs of fears

And

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And horrors haſt thou driv'n me? out of which
I find no way; from deep to deeper *plung'd*. *Milton.*

—Without a prudent determination in matters before us, we ſhall be *plunged* into perpetual errors. *Watts.* 4. To force in ſuddenly. This word, to what action ſoever it be applied, commonly expreſſes either violence and ſuddenneſs in the agent, or diſtreſs in the patient.—

At this advanc'd, and ſudden as the word,
In proud Plexippus' boſom *plung'd* the ſword. *Dryden.*

—Let them not be too haſty to *plunge* their enquiries at once into the depths of knowledge. *Watts.*

(2.) * *To* PLUNGE. *v. n.* 1. To ſink ſuddenly into water; to dive.—

Accoutred as I was, I *plunged* in. *Shak.*
His courſer *plung'd*,
And threw him off; the waves whelm'd over him. *Dryden.*
Forc'd to *plunge* naked in the raging ſea. *Dryden.*

—When tortoiſes have been a long time upon the water, their ſhell being dried in the ſun, they are eaſily taken; by reaſon they cannot *plunge* into the water nimbly enough. *Ray.* 2. To fall or ruſh into any hazard or diſtreſs.—He could find no other way to conceal his adultery, but to *plunge* into the guilt of a murther. *Tillotſon.*—

Bid me for honour *plunge* into a war. *Addiſ.*
He *plung'd* into the gulph which heav'n foretold. *Pope.*

* PLUNGEON. *n. ſ.* [*mergus*, Latin.] A ſea bird. *Ainſ.*

* PLUNGER. *n. ſ.* [from *plunge*.] One that plunges; a diver.

* PLUNKET. *n. ſ.* A kind of blue colour. *Ainſ.*

(1.) * PLURAL. *adj.* [*pluralis*, Lat.] 1. Implying more than one.—

Better have none
Than *plural* faith, which is too much by one. *Shak.*

2. [In grammar.]—The Greek and Hebrew have two variations, one to ſignify the number two, and another to ſignify a number of more than two; under one variation the noun is ſaid to be of the dual number, and under the other of the *plural*. *Clarke.*

(2.) PLURAL. See GRAMMAR, under ENGLISH LANGUAGE, p. 692, 694.

* PLURALIST. *n. ſ.* [*pluraliſte*, Fr. from *plural*.] One that holds more eccleſiaſtical benefices than one with cure of ſouls.—If the *pluraliſts* would do their beſt to ſuppreſs curates, their number might be retrenched. *Collier.*

(1.) * PLURALITY. *n. ſ.* [*pluralité*, Fr.] 1. The ſtate of being or having a greater number.—It is not *plurality* of parts without majority of parts, maketh the total greater. *Bacon.* 2. A number more than one.—Thoſe hereticks had introduced a *plurality* of gods. *Hammond.*—Sometimes it admitteth of diſtinction and *plurality*. *Pearſon.*—They could forego *plurality* of wives. *Bentley.*—'Tis impoſſible to conceive how any language can want this variation of the noun, where the nature of its ſignification is ſuch as to admit of *plurality*. *Clarke.* 3. More cure of ſouls than one. 4. The greater number; the majority.—Take the *plurality* of the world, and they are neither wiſe nor good. *L'Eſt.*

(2.) PLURALITY OF BENEFICES, or LIVINGS, is where the ſame clerk is poſſeſſed of two or more ſpiritual preferments, with cure of ſouls. See BENEFICE, § 2—8. The ſmalneſs of ſome benefices firſt gave riſe to pluralities; for an eccleſiaſtic, unable to ſubſiſt on a ſingle one, was allowed to hold two; and at length the number increaſed without bounds. A remedy was attempted for this abuſe at the council of Lateran under Alexander III. and Innocent III. in 1215, when the holding more than one benefice was forbid by a canon under the penalty of deprivation; but the ſame canon granting the pope a power to diſpenſe with it in favour of perſons of diſtinguiſhed merit, the prohibition became almoſt uſeleſs. They were alſo reſtrained by 21 Hen. VIII. cap. 13. which enacts, that if any perſon having one benefice with cure of ſouls, of the yearly value of 8l. or above (in the king's books), accept any other with cure of ſouls, the firſt ſhall be adjudged in law to be void, &c. though the ſame ſtatute provides for diſpenſation in certain caſes. In England, to procure a diſpenſation, the preſentee muſt obtain of the biſhop, in whoſe dioceſe the livings are, two certificates of the values in the king's books, and the reputed values and diſtance; one for the archbiſhop, and the other for the lord chancellor. And if the livings lie in two dioceſes, then two certificates of the ſame kind are to be obtained from each biſhop. He muſt alſo ſhow the archbiſhop his preſentation to the 2d living; and bring with him two teſtimonials from the neighbouring clergy concerning his behaviour and converſation, one for the archbiſhop and the other for the lord chancellor; and he muſt alſo ſhow the archbiſhop his letters of orders, and a certificate of his having taken the degree of M. A. at the leaſt, in one of the univerſities of this realm, under the hand of the regiſter. And if he be not B. D. nor D. D. nor LL. B. nor LL. D. he is to procure a qualification of a chaplain, which is to be duly regiſtered in the faculty of office, in order to be tendered to the archbiſhop, according to the ſtatute. And if he hath taken any of the aforeſaid degrees, which the ſtatute allows as qualifications, he is to procure a certificate thereof, and to ſhow the ſame to the archbiſhop; after which his diſpenſation is made out at the faculty office, where he gives ſecurity according to the direction of the canon. He muſt then repair to the lord chancellor for confirmation under the broad ſeal; and he muſt apply to the biſhop of the dioceſe where the living lies for his admiſſion and inſtitution. By the ſeveral ſtamp acts, for every ſkin, or piece of parchment, &c. on which any diſpenſation to hold two eccleſiaſtical dignities or benefices with cure, dignity and a benefice, ſhall be engroſſed or written, there ſhall be paid a treble 40s. ſtamp duty. There is alſo a regulation with regard to pluralities; but it is often diſpenſed with: for, by the faculty of diſpenſation, a pluraliſt is required to live on that benefice from which he ſhall happen to be moſt abſent, to preach 13 ſermons every year, and to exerciſe hoſpitality for two months yearly. In Germany the pope grants diſpenſations for pluralities,

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ſeſſing a plurality of benefices, on pretence that the eccleſiaſtical princes there need large revenues to bear up againſt the Proteſtant princes.

(3.) PLURARITY OF WORLDS. See ASTRONOMY, § 170, 203—205; and PLANET, § 2.

* PLURALLY. *adv.* [*plural.*] In a ſenſe implying more than one.

PLUS, [Latin, *more.*] in algebra, a character marked thus +, uſed for the ſign of addition. See ALGEBRA, *Part* I. *def.* 2. and NEGATIVE, § 4.

(1.) * PLUSH. *n. ſ.* [*peluche*, French.] A kind of villous or ſhaggy cloth; ſhag; a kind of woollen velvet.—The bottom of it was ſet againſt a lining of *pluſh*. *Bacon.*—The colour of *pluſh* or velvet will appear varied, if you ſtroak part of it one way, and part of it another. *Boyle.*—

I love to wear cloths that are ſluſh,
Not prefacing old rags with *pluſh*. *Cleavel.*

(2.) PLUSH, in commerce, &c. has a ſort of velvet knap or ſhag on one ſide, compoſed regularly of a woof of a ſingle woollen thread and a double warp; the one wool, of two threads twiſted; the other goats or camels hair; though there are ſome pluſhes entirely of worſted, and others compoſed wholly of hair.

* PLUSHER. *n. ſ.* [*galea lævis.*] A ſea fiſh.—The pilchard is devoured by a bigger kind of fiſh called a *pluſher*, ſomewhat like the dog-fiſh. *Carew.*

PLUTARCH, a great philoſopher and hiſtorian of antiquity, who lived from the reign of Claudius to that of Hadrian, was born at Chæronea, a ſmall city of Bœotia in Greece. Plutarch's family was ancient in Chæronea: his grandfather Lamprias was a philoſopher, and eminent for his learning; and is often mentioned by Plutarch in his writings, as is alſo his father. Plutarch was initiated early in ſtudy, and was placed under the care of Ammonius, an Egyptian, who, after having taught philoſophy with great reputation at Alexandria, ſettled at Athens. Under this maſter he made great advances in knowledge; but like a true philoſopher, more apt to regard *things* than *words*, he neglected the ſtudy of languages. Though he is ſuppoſed to have reſided in Rome near 40 years at different times, yet he never ſeems to have acquired a competent ſkill in the Latin language; nor did he even cultivate his mother-tongue the Greek with accuracy, and hence that harſhneſs, inequality, and obſcurity in his ſtyle, which is ſo juſtly complained of. After being grounded by Ammonius, he travelled into Egypt, and was initiated in the Egyptian MYSTERIES, as appears by his treatiſe *Of Iſis and Oſiris*, in which he ſhows himſelf well verſed in their ancient theology and philoſophy. From Egypt he returned into Greece; and viſiting in his way all the academies and ſchools of the philoſophers, gathered from them many of thoſe obſervations with which he has enriched his works. He does not ſeem to have been attached to any particular ſect, but culled from each whatever he thought excellent. He could not bear the paradoxes of the Stoics, but was ſtill more averſe from the impiety of the Epicureans: in many things he followed Ariſtotle; but his favourites were Socrates and Plato, whoſe memory he revered ſo highly, that he annually celebrated their birth-days with much ſolemnity. Beſides this, he applied himſelf with extreme diligence to collect not only all books, but alſo all the ſayings and obſervations of wiſe men which he had heard in converſation or had received from others by tradition; and likewiſe to conſult the records and public inſtruments preſerved in cities which he had viſited in his travels. He took a particular journey to Sparta, to ſearch the archives of that famous kingdom, to underſtand their ancient government, with the hiſtory of their legiſlators, kings, and ephori. He took the ſame methods with regard to many other commonwealths; and thus was enabled to leave us in his works ſuch a rich cabinet of obſervation upon men and manners, as, in the opinion of Montaigne and Bayle, have rendered him the moſt valuable author of antiquity. Few circumſtances of Plutarch's life are known. According to the learned Fabricius, he was born under Claudius, 50 years after the Chriſtian era. He was married to a moſt amiable woman of his own native town, whoſe name was Timoxena, and to whoſe ſenſe and virtue he bears the moſt affectionate teſtimony in his moral works. He had ſeveral children, and among them two ſons; one called *Plutarch* after himſelf, the other *Lamprias* in memory of his grandfather. Lamprias ſeems to have inherited his father's philoſophy; and to him we owe the table or catalogue of Plutarch's writings, and perhaps alſo his apophthegms. He had a nephew, Sextus Chæroneus, who taught the learned emperor Marcus Aurelius the Greek tongue, and was much honoured by him. Some think, that the critic LONGINUS was of his family; and Apuleius, in the firſt book of his Metamorphoſes, affirms himſelf to be deſcended from him. Plutarch upon going to Rome, had a great reſort of the Roman nobility: for he tells us himſelf, that he was ſo taken up in giving lectures on philoſophy to the great men of Rome, that he had not time to make himſelf maſter of the Latin tongue. He was ſeveral times at Rome, and contracted an intimacy with Soſſius Senecio, a worthy man, who had been four times conſul, and to whom Plutarch has dedicated many of his lives. But his chief object in theſe journeys, was to ſearch the records of the Capitol, and the public libraries. Suidas ſays he was intruſted alſo with the management of public affairs in the empire, during his reſidence in the metropolis. "Plutarch (ſays he) lived in the time of Trajan, who beſtowed on him the conſular ornaments, and cauſed an edict to be paſſed, that the magiſtrates or officers of Illyria ſhould do nothing in that province without his knowledge and approbation." It is generally ſuppoſed that Trajan, a private man when Plutarch firſt came to Rome, was, among other nobility, one of his auditors; that this wiſe emperor afterwards made uſe of him in his councils. Much indeed of the happineſs of his reign has been imputed to Plutarch. Fabricius aſſerts that he was Trajan's preceptor, and that he was raiſed to the conſular dignity by him, and made procurator of Greece in his old age by Adrian. The deſire of viſiting his native country prevailed with him at

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length to leave Italy: and at his return he was unanimously chosen archon of Chæronea, and soon after admitted into the number of the Delphic Apollo's priests. Fabricius says he died in the 5th year of Adrian, aged 70. His works have been divided into *Lives* and *Morals*. He has been justly esteemed for his fine sense and learning, for his integrity, and for a certain air of goodness which appears in all his works. His aim was to instruct and charm the mind; and in this none ever went beyond him. Of his moral writings it is to be regretted that we have no elegant English translation. Even his Lives were chiefly known to the English reader by a miserable version, till a new one executed with fidelity and spirit was presented to the public by the Langhornes in 1770.

PLUTIA, an ancient town of Sicily. *Cic.*

PLUTO, in Pagan worship, the king of the infernal regions, was the son of Saturn and Ops, and the brother of Jupiter and Neptune. This deity finding himself childless and unmarried, mounted his chariot to visit the world; and arriving in Sicily, fell in love with Proserpine, whom he saw gathering flowers with her companions in the valley of Enna, near mount Ætna; when, forcing her into his chariot, he drove her to the river Chemarus, through which he opened himself a passage back to the realms of night. See CERES and PROSERPINE. Pluto is usually represented in an ebony chariot drawn by four black horses; sometimes holding a sceptre, to denote his power; at others, a wand, with which he drives away the ghosts; and at others, some keys, to signify that he had the keys of death. Homer observes, that his helmet had the quality of rendering the wearer invisible, and that Minerva borrowed it in order to be concealed from Mars when she fought against the Trojans. Pluto was greatly revered both by the Greeks and Romans, who erected temples and altars to him. To this god sacrifices were offered in the night, and it was not lawful to offer them by day.

PLUTUS, in Pagan worship, the god of riches. He was represented as appearing lame when he approached, and with wings at his departure; to show the difficulty of amassing wealth, and the uncertainty of its enjoyment. He was also frequently represented blind, to show that he often bestowed his favours on the most unworthy, and left in necessity those who had the greatest merit.

(1.) * PLUVIAL. PLUVIOUS. *adj.* [from *pluvia*, Latin.] Rainy; relating to rain.—The fungous parcels about the wicks of candles only signifieth a moist and *pluvious* air about them. *Brown.*

(2.) * PLUVIAL. *n. s.* [*pluvial*, Fr.] A priest's cope. *Ainsw.*

PLUVIALIS. See CHARADRIUS, N° 9.

(1.) PLUVIERS, a town of France, in the dep. of Eure and Loire, and cis-devant prov. of Beauce, 20 miles N. of Orleans. Lon. 2. 0. E. Lat. 48. 14. N.

(2.) PLUVIERS. See PITHIVIERS.

PLUVIGNER, a town of France, in the dep. of Morbihan; 6 miles N. of Auray, and 13½ E. of Orient.

PLUVIOSE, [Fr. *i. e.* Rainy.] the 5th month of the year, and the 2d month of winter, in the new French Calendar; commencing Jan. 20, and ending Feb. 18. See CALENDAR, § 3.

* PLUVIOUS. See PLUVIAL, § 1.

PLUVIUS, a surname of Jupiter. He was invoked by that name among the Romans whenever the earth was parched up by continued heat, and want of rain. He had an altar in the temple on the capitol.

* PLY. *n. s.* [from the verb.] 1. Bent; turn; cast; bias.—The late learners cannot so well take the *ply*. *Bacon.* 2. Plait; fold.—The rugæ or *plies* of the inward coat of the stomach detain the aliment in the stomach. *Arbuthnot.*

(1.) * *To* PLY. *v. a.* [*plian*, to work at any thing, old Dutch. *Junius* and *Skinner.*] 1. To work on any thing closely and importunately.—

The wound's great author close at hand provokes
His rage, and *plies* him with redoubled strokes. *Dryden.*

The hero from afar
Plies him with darts and stones. *Dryden.*

2. To employ with diligence; to keep busy; to set on work.—

Her gentle wit she *plies*
To teach them truth. *Spenser.*

—He refus'd his pen too, and *ply'd* it as hard. *Fell.*—

They their legs *ply'd*. *Fanshaw.*

—He who *plies* all means and opportunities in search of truth, may rest upon the judgment of his conscience so informed, as a warrantable guide. *South.*—

The weary Trojans *ply* their shatter'd oars
To nearest land. *Dryden.*

—I have *plied* my needle these fifty years. *Spect.*

3. To practise diligently.—

He sternly bad him other business *ply*. *Sandys.*
Keep house, and *ply* his book. *Swift.*
Then commune how they best may *ply*
Their growing work. *Milton.*
Their bloody task, unweary'd still, they *ply*. *Fairfax.*

4. To solicit importunately.—

He *plies* her hard, and much rain wears the marble. *Shak.*

He *plies* the duke at morning and at night, &c.—Whosoever has any thing of David's piety will be perpetually *plying* the throne of grace with such like acknowledgments. *South.*

(2.) * *To* PLY. *v. n.* 1. To work, or offer service.—He was forced to *ply* in the streets as a porter. *Spectator.* 2. To go in haste.—

Thither he *plies* undaunted. *Milton.*

3. To busy one's self.—

A bird new made about the banks she *plies*. *Dryden.*

4. [*Plier*, Fr.] To bend.—The willow *plied* and gave way to the gust. *L'Estrange.*

(1.) * PLYERS. *n. s.* See PLIERS.

(2.) PLYERS, in fortification, a kind of balance used in raising or letting down a draw-bridge. They consist of two timber levers, twice as long as the bridge they lift, joined together by other timbers formed together in the form of a St Andrew's cross to counterpoise them. They are supported by two upright jambs, on which they swing; and the bridge is raised or let down by means

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means of chains joining the ends of the plyers and bridge.

PLYING, *part. n. f.* in the sea language, the act of making, or endeavouring to make, a progress against the direction of the wind. Hence a ship that advances well in her course in this manner of sailing, is said to be a good plyer. See BEATING, PITCHING, and TACKING.

PLYM, a river of England, which rises in Devonshire; becomes a navigable river at Plymouth, and falls into Plymouth Sound, a little below Plymouth.

(1.) PLYMOUTH, a town of Devonshire, about 215 miles from London, between the rivers Plym and Tamar, just before they fall into the British Channel. From a mere fishing village, it is become one of the largest towns in the county; and is one of the chief magazines in the kingdom, on account of its port, which is one of the best in England, and which is so large as to be able to contain 1000 sail. It is defended by several different forts, mounting nearly 300 guns; of which the chief is the Royal Citadel, erected in the reign of Charles II. opposite to St Nicholas Island, which is within the circuit of its walls, and contains a large store-house and five regular batteries. In time of war, the outward bound convoys generally rendezvous at Plymouth, and homeward bound ships generally put in to provide pilots up the Channel. It is also a great place of resort for men of war that are windbound. The mouth of the Tamar is called *Hamoaze*, (see HAMOAZE) and that of the Plym, CATWATER, which are both commanded by the castle on St Nicholas Island. About two miles up the mouth of the Tamar, there are four docks, two of which were built in the reign of William III. one wet, and the other dry, and two which have been built since. They have every convenience for building or repairing ships, and one of them is hewn out of a mine of slate, and lined with Portland stone. This town has a considerable PILCHARD fishery, and carries on an extensive trade with Newfoundland and the Straits. There is a custom-house in it; and though there are two churches, besides several meeting houses, yet each church has so large a cure of souls, that the parish clerks were till very lately in deacon's orders, to enable them to perform all the offices. The seat rents are given to the poor. The lecturers are chosen triennially by the corporation, which was constituted by Henry VI. and consists of a mayor, 12 aldermen, and 24 common councilmen. The mayor is elected by a jury of 36 persons, chosen by four others, two of whom are appointed by the mayor and aldermen, and the other two by the common council. There is also a recorder, and a town clerk, whose place is very profitable. The town consists of four divisions, which were anciently governed by 4 captains, each of whom had 3 constables under him. It is well supplied with fresh water, which was brought from the distance of seven miles, by Sir Francis Drake, a native of the town. The toll of the markets, and of the cotton, yarn, &c. with the 'profit of the mill,' which is very considerable, belongs to the corporation, as do the revenues of the shambles, which are farmed out for the mayor's kitchen. There is a charity school in Plymouth, 4 hospitals, and a workhouse, in all which 100 poor children are clothed, fed, and taught; and there are two printing houses. To one of the hospitals Colonel Jory gave a charity for 12 poor widows, and a mace worth 120l. to be carried before the mayor, and six good bells, valued at 500l. to Charles-Church. In the entrance of the bay lies the famous Edystone rock. (See EDDYSTONE ROCKS.) In the reign of Edward III. the French landed, and burnt part of the town, but were soon repulsed by Hugh Courtenay, earl of Devon. In the reign of Henry IV. the French landed again, and burnt 600 houses. Between this town and the sea is a hill called the Haw, which has a delightful plain on the top, having a pleasant prospect all round it, and a good landmark for the use of mariners. The list of parliament men for this borough, formerly divided into two parts, by the names of Sutton-Valtort and Sutton-Prior, commenced the 26th of Edward I. and continued to the 14th of Edward III. after which we find no return made for it till the 20th of Henry VI. when the privilege was renewed. On the Haw is a fort, which at once awes the town, and defends the harbour. Here is a ferry over the Tamar, called Cromwel, or Crimble Passage, the W. side of which is called Westone House, and is in Devonshire, though most of the parish wherein it stands is in Cornwall. In April 1759, the parliament granted 25,159l. for the better fortifying the town and dock of Plymouth; which was visited by George III. with the Queen, &c. in August 1789. Lon. 4. 15. W. Lat. 50. 26. N.

(2.) PLYMOUTH, a maritime county of Massachusetts, bounded on the N. by Norfolk, E. by Cape Cod bay, SE. by Barnstable county, S. by Buzzard's Bay, and SW. and W. by Bristol. It is 37 miles long, 21 broad, and contained 4240 houses, and 29,535 citizens, in 1795. It is divided into 15 townships, and abounds with iron ore, which has given rise to numerous manufactures. In this and the adjoining county, of Bristol, there are 20 furnaces, 20 forges, 7 slitting and rolling mills; besides an incredible number of shops for the manufacture of nails and other articles in smithery. These produce annually about 1800 tons of iron wares; as spades, shovels, saws, scythes, cannon balls, fire arms, bells, cards, nails, &c.

(3.) PLYMOUTH, a sea port town, and capital of the above county. It is remarkable for having been the first settlement in New England, and for having had the first place of worship. It is seated at the south end of Plymouth Bay. Its exports, in 1794, amounted to 35,462 dollars. Lon. 70. 10. W. Lat. 41. 58. N.

(4.) PLYMOUTH, a town of Connecticut, in Litchfield county.

(5.) PLYMOUTH, a post town of New Hampshire, in Grafton county, on the W. bank of the Pemigewasset, at the mouth of Baker's river, 45 miles N. of Concord. It has a court-house and congregational church; and contained 625 citizens in 1795. It is 71 miles NW. of Portsmouth, and 463 of Philadelphia. Lon. 2. 28. E. of that city. Lat. 43. 46. N.

(6.) PLYMOUTH, a post town of N. Carolina,

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on the S. bank of the Roanoke, 5 miles above its mouth; 23 miles S. by W. of Edenton, and 462 SW. of Philadelphia. Lon. 1. 58. W. of that city. Lat. 35. 51. N.

(7.) PLYMOUTH, a town of New York, on the W. bank of the Seneca, on a gentle declivity, 12 miles SE. of Geneva.

(8, 9.) PLYMOUTH, two townſhips of Pennſylvania; the one in Luzerne, and the other in Montgomery counties.

(10.) PLYMOUTH, a town of Hiſpaniola, near Jeremie.

(11.) PLYMOUTH, a town of Tobago.

(12.) PLYMOUTH BAY, a bay of Maſſachuſetts, on the coaſt of Plymouth county, 41 miles SE. of Boſton.

(13.) PLYMOUTH SOUND, a ſound on the coaſt of Devonſhire, below Plymouth.

(1.) PLYMPTON. See PLIMPTON.

(2.) PLYMPTON, a townſhip of Maſſachuſetts, in Plymouth county, 45 miles SE. of Boſton; containing 956 citizens in 1795.

PLYMTREE, a town of Devonſhire, E. of Bradninch.

PLYNLIMMON. See PLIMLIMMON, and SNOWDON.

PLYNTERIA, a Grecian feſtival in honour of Aglauros, or rather of Minerva, who received from the daughter of Cecrops the name of Aglauros. The word is derived from πλυνω, *lavare*, becauſe during the ſolemnity they undreſſed the ſtatue of the goddeſs, and waſhed it. The day on which it was obſerved was looked upon as unfortunate and inauſpicious; and therefore no perſon was permitted to appear in the temples as they were purpoſely ſurrounded with ropes. The arrival of Alcibiades in Athens that day, was thought very unfortunate, but the ſucceſs that ever after attended him proved it to be otherwiſe. It was cuſtomary at this feſtival to bear in proceſſion a cluſter of figs; which intimated the progreſs of civilization among the firſt inhabitants of the earth, as figs ſerved them for food after they had begun to diſlike acorns.

* PNEUMATICAL. } *adj.* [πνευματικος, from
* PNEUMATICK. } πνευμα.] 1. Moved by wind; relative to wind.—I fell upon the making of *pneumatical* trials. *Boyle.*—That the air near the ſurface of the earth will expand itſelf, when the preſſure of the incumbent atmoſphere is taken off, may be ſeen in the experiments made by Boyle in his *pneumatick* engine. *Locke.*—

They with *pneumatick* engine ceaſeleſs draw. *Prior.*

2. Conſiſting of ſpirit or wind.—All ſolid bodies conſiſt of parts *pneumatical* and tangible, the *pneumatical* ſubſtance being in ſome bodies the native ſpirit of the body, and in others plain air that is gotten in. *Bacon.*—The race of all things here is, to extenuate and turn things to be more *pneumatical* and rare; and not to retrograde, from *pneumatical*, to that which is denſe. *Bacon.*

PNEUMATICKS.

DEFINITIONS OF THE SCIENCE.

PNEUMATICKS is thus defined and illuſtrated by Dr Johnſon:

* PNEUMATICKS. *n. ſ.* [*pneumatique*, Fr. πνευμα.] 1. A branch of mechanicks, which conſiders the doctrine of the air, or laws according to which that fluid is condenſed, rarified or gravitates. *Harris.* 2. In the ſchools, the doctrine of ſpiritual ſubſtances, as God, angels, and the ſouls of men. *Dict.*

The word PNEUMATICS, in its original meaning, expreſſes a quality of air, or more properly of breath: but is uſually extended to the ſtudy of the mechanical properties of all elaſtic or ſenſibly compreſſible fluids; as the term HYDROSTATICS is applied to the ſtudy of the mechanical properties of ſuch bodies as intereſt us by their fluidity or liquidity only.

The 2d definition, given above by Dr JOHNSON, is rather reſtricted to the ſcience of the intellectual phenomena, and is otherwiſe expreſſed by the term, PNEUMATOLOGY.

The inveſtigation of the nature, principles, and properties of AIR, is therefore the chief object of this ſcience; and the practical application of theſe to the invention and improvement of various engines for philoſophical experiments, its principal uſe.

SECT. I. *Of the* PROPERTIES *of* AIR.

THE properties of AIR, that immenſe fluid, upon which not only all animal and vegetable life, but the principal phænomena of nature depend, have of late very much occupied the attention of philoſophers. And their ſucceſs has been proportionate to their induſtry and ingenuity. Numberleſs properties and phænomena have been diſcovered in this fluid, of the exiſtence of which the ancients had not the moſt diſtant conception.

Theſe properties may in general be divided into two great claſſes, *Chemical* and *Mechanical*. Of theſe the former are largely treated of, under the ſciences of AEROLOGY, CHEMISTRY, and METEOROLOGY; as well as under the detached articles, AIR, ATMOSPHERE, EVAPORATION, FIXED AIR, FLUIDITY, GAS, HYDROGENE, NITROGENE, OXYGEN, WIND, &c. &c. The latter, the mechanical properties of Air, belong properly, though not excluſively, to the ſcience of PNEUMATICS.

Of all the mechanical properties of air, the moſt ſtriking are its *Elaſticity* and *Compreſſion*. See ELASTIC, § 5; and ELASTICITY, § 6. Many other bodies have ſome degree of theſe properties, but in air they are *eſſential characteriſtics*. Water, oil, mercury, and other fluids, are compreſſible, but the degrees of compreſſibility they poſſeſs are not their diſtinguiſhing character. In air it is otherwiſe; for in this fluid elaſticity and compreſſibility appear in their moſt ſimple form, unaccompanied with any other mechanical affection of matter whatſoever, except gravity.

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Of all the ſenſibly compreſſible fluids, therefore, air is the moſt familiar, was the firſt ſtudied, and the moſt minutely examined. It has accordingly been generally taken as the example of their mechanical properties, while thoſe mechanical properties which are peculiar to any of them, and therefore characteriſtic, have uſually been treated as an appendix to the general ſcience of pneumatics.

By *mechanical properties*, we mean ſuch as produce, or are connected with, ſenſible changes of motion, and which indicate the preſence and agency of moving or mechanical powers. They are therefore the ſubject of mathematical diſcuſſion; admitting of meaſure, number, and direction, notions purely mathematical.

In common language, a veſſel is ſaid to be *empty* when the water, or other fluid which it contained, is poured out of it. Take a cylindrical glaſs jar, having a ſmall hole in its bottom; and having ſtopped this hole, fill the jar with water, and then pour out the water, leaving the glaſs empty, in the common acceptation of the word. Now, throw a bit of cork, or any light body, on the ſurface of water in a ciſtern: cover this with the glaſs jar held in the hand with its bottom upwards, and move it downwards, keeping it all the while in an upright poſition. The cork will continue to float on the ſurface of the water in the inſide of the glaſs, and will moſt diſtinctly ſhow whereabouts that ſurface is. It will thus be ſeen, that the water within the glaſs has its ſurface conſiderably lower than that of the ſurrounding water; and however deep we immerge the glaſs, we ſhall find that the water will never riſe in the inſide of it ſo as to fill it. If plunged to the depth of 32 feet, the water will only half fill it; and yet the acknowledged laws of hydroſtatics tell us, that the water would fill the glaſs if there were nothing to hinder it. There is therefore ſomething already within the glaſs which prevents the water from getting into it; manifeſting in this manner the moſt diſtinctive property of matter, viz. the hindering other matter from occupying the ſame place at the ſame time.

In this ſituation of matters, pull the ſtopper out of the hole in the bottom of the jar, and the water will inſtantly riſe in the inſide of the jar, and ſtand at an equal height within and without. This is juſtly aſcribed to the eſcape through the hole of the *matter* which formerly obſtructed the entry of the water: for if the hand be held before the hole, a puff will be diſtinctly felt, or a feather held there will be blown aſide; indicating in this manner that what prevented the entry of the water, and now eſcapes, poſſeſſes another characteriſtic property of matter, *impulſive force*. The materiality is concluded from this appearance, in the ſame manner that the materiality of water is concluded from the impulſe of a jet from a pipe. We alſo ſee the mobility of the formerly pent up, and now liberated, ſubſtance, in conſequence of external preſſure, viz. the preſſure of the ſurrounding water.

If we take a ſmooth cylindrical tube, ſhut at one end, and fit a plug to its open end, ſo as to ſlide along it, but ſo tightly as to prevent all paſſage by its ſides; and if the plug be well ſoaked in greaſe, we ſhall find that no force whatever can puſh it to the bottom of the tube. There is therefore *ſomething* within the tube preventing by its *impenetrability* the entry of the plug, and therefore poſſeſſing this characteriſtic of matter. In like manner, if, after having opened a pair of common bellows, we ſhut up the nozzle and valve hole, and try to bring the boards together, we find it impoſſible. There is ſomething included which prevents this, in the ſame manner as if the bellows were filled with wool: but on opening the nozzle, we can eaſily ſhut them, viz. by expelling this ſomething; and if the compreſſion is forcible, the ſomething will iſſue with conſiderable force, and very ſenſibly impel any thing in its way.

People are apt to think, that we move about without *any* obſtruction; but if we endeavour to move a large fan with rapidity, a very ſenſible hinderance is perceived, and that a very ſenſible force muſt be exerted; and a ſenſible wind is produced, which will agitate the neighbouring bodies. It is therefore juſtly concluded that the motion is poſſible only in conſequence of having driven this obſtructing ſubſtance out of the way; and that this impenetrable, reſiſting, moveable, impelling ſubſtance, is *matter*. We perceive the perſeverance of this matter in its ſtate of reſt when we wave a fan, in the ſame manner that we perceive the *inertia* of water when we move a paddle through it. The effects of wind in impelling our ſhips and mills, in tearing up trees, and overturning buildings, are equal indications of its perſeverance in a ſtate of motion.

This matter, when at reſt, we call AIR; and when in motion, WIND. Air, therefore, is a *material* fluid; a fluid, becauſe its parts are eaſily moved, and yield to the ſmalleſt inequality of preſſure.

Air poſſeſſes ſeveral other of the very general, though not eſſential, properties of matter. It is heavy. This might be proved, 1. from the gravity of the ſurrounding ATMOSPHERE, which conſtantly accompanies our globe, in its circuit around the ſun: 2. from its power in ſupporting the clouds and vapours, which conſtantly float in it: 3. From various familiar experiments; ſuch as the following: If we ſtop the end of a ſyringe after its piſton has been preſſed down to the bottom, and then attempt to draw up the piſton, we ſhall find a conſiderable force neceſſary, viz. about 15 or 16 pounds for every ſquare inch of the ſection of the ſyringe. Exerting this force, we can draw up the piſton to the top, and we can hold it there; but the moment we ceaſe acting, the piſton ruſhes down and ſtrikes the bottom. It is called a ſuction, as we feel ſomething as it were drawing in the piſton: but it is really the weight of the incumbent air preſſing it in. And this obtains in every poſition of the ſyringe; becauſe the air is a fluid, and preſſes in every direction. Nay, it preſſes on the ſyringe as well as on the piſton; and if the piſton be hung by its ring on a nail, the ſyringe requires force to draw it down, (juſt as much as to draw the piſton up); and if it be let go, it will ſpring up, unleſs loaded with at leaſt 15 lb. for every ſquare inch of its tranſverſe ſection.

4. But

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4. But the moſt direct proof of the weight of the air is had by weighing a veſſel empty of air, and then weighing it again when the air has been admitted; and this, as it is the moſt obvious conſequence of its weight, has been aſſerted as long ago as the days of Ariſtotle. (See his work, περι ουρανου, iv. 4.) As a proof, take a round veſſel A (*fig.* 1. *Plate* CCLXXVIII.) fitted with a ſtopcock B, and ſyringe C. Fill the whole with water, and preſs the piſton to the bottom of the ſyringe. Then keeping the cock open, and holding the veſſel upright, with the ſyringe undermoſt, draw down the piſton. The water will follow it by its weight, and leave part of the veſſel empty. Now ſhut the cock, and again puſh up the piſton to the bottom of the ſyringe; the water eſcapes through the piſton valve, as will be explained afterwards: then opening the cock, and again drawing down the piſton, more water will come out of the veſſel. Repeat this operation till all the water have come out. Shut the cock, unſcrew the ſyringe, and weigh the veſſel very accurately. Now open the cock, and admit the air, and weigh the veſſel again, it will be found heavier than before, and this additional weight is the weight of the air which fills it; and it will be found to be 523 grains, about an ounce and a fifth avoirdupoiſe, for every cubic foot that the veſſel contains. Now, ſince a cubic foot of water would weigh 1000 ounces, this experiment would ſhow that water is about 840 times heavier than air. The moſt accurate judgment of this kind of which we have met with an account is that recorded by Sir George Shuckbourgh, in the 67th vol. of the *Philoſ. Tranſ.* p. 560. From this it follows, that when the air is of the temperature 53, and the barometer ſtands at 29¼ inches, the air is 836 times lighter than water. But the experiment is not ſuſceptible of ſufficient accuracy for determining the exact weight of a cubic foot of air. Its weight is very ſmall; and the veſſel muſt be ſtrong and heavy, ſo as to overload any balance that is ſufficiently nice for the experiment.

To prevent this, the whole may be weighed in water, firſt loading the veſſel ſo as to make it preponderate an ounce or two in the water; by which means the balance will be loaded only with this ſmall preponderancy. But even in this caſe there are conſiderable ſources of error, ariſing from changes in the ſpecific gravity of the water and other cauſes. The experiment has often been repeated with this view, and the air has been found at a medium to be about 840 times as light as water, but with great variations, as may be expected from its very heterogeneous nature.

Such is the reſult of the experiment ſuggeſted by Ariſtotle, evidently proving the weight of the air; and yet the Peripatetics, who profeſs'd to follow his *dictates*, uniformly refuſed it this property. It was a matter long debated among the philoſophers of the 17th century. The reaſon was, that Ariſtotle, with that indiſtinctneſs and inconſiſtency perceptible in all his writings which relate to matters of fact and experience, aſſigns a different cauſe to many phenomena which any man would aſcribe to the weight of the air. Of this kind is the riſe of water in pumps and ſyphons, which all the Peripatetics had for ages aſcribed to ſomething which they called *nature's abhorrence of a void*. Ariſtotle had aſſerted, that all nature was full of being, and that nature abhorred a void. He adduces many facts, in which it appears, that if not impoſſible, it is very difficult, and requires great force, to produce a ſpace void of matter. When the operation of pumps and ſyphons came to be known, the philoſophers of Europe (who had all embraced the Peripatetic doctrines) found in this *fancied horror* of a *feared mind*, a ready ſolution of the phenomena; and under this prejudice were ſatisfied with very ſuperficial reaſoning on the ſubject.

Galileo was the firſt who aſcribed this to the weight of the air. Many before him had ſuppoſed air heavy; and thus explained the difficulty of raiſing the board of bellows, or the piſton of a ſyringe, &c. But he diſtinctly applies to this allowed weight of the air all the conſequences of hydroſtatical laws; for theſe reaſons: The heavy air reſts on the water in the ciſtern, and preſſes it with its weight. It does the ſame with the water in the pipe, and therefore both are on a level: but if the piſton, after being in contact with the ſurface of the water, be drawn up, there is no longer any preſſure on the ſurface of the water within the pipe; for the air now reſts on the piſton only, and thus occaſions a difficulty in drawing it up. The water in the pipe, therefore, is in the ſame ſituation as if more water were poured into the ciſtern, that is, as much as would exert the ſame preſſure on its ſurface as the air does. In this caſe the water will be preſſed into the pipe, and will raiſe up the water already in it, and follow it till it is equally high within and without. The ſame preſſure of the air ſhuts the valve E during the deſcent of the piſton. (See *Gal. Diſcourſes.*)

He paid due attention to the very obvious objection, that if the riſe of the water was the effect of the air's preſſure, it would alſo be its meaſure, and would be raiſed and ſupported only to a certain height. He directly ſaid ſo, and adduced it as a deciſive experiment. If the horror of a void be the cauſe, ſays he, the water muſt riſe to any height however great; but if it be owing to the preſſure of the air, it will only riſe till the weight of the water in the pipe is in equilibrio with the preſſure of the air, according to the common laws of hydroſtatics. And he adds, it is a fact, that pumps will not *draw* water much above 40 palms, although they may be made to *propel* it, or to lift *it* to any height.

In proof of this, an experiment was made in 1642, after Galileo's death, by his zealous and learned diſciple Torricelli. He filled a glaſs tube, cloſe at one end, with mercury; judging that if the ſupport of the water was owing to the preſſure of the air, and was the meaſure of that preſſure, mercury would in like manner be ſupported by it, and this at a height which was the meaſure of the air's preſſure, and therefore 14 times leſs than water. He had the pleaſure of ſeeing his expectation verified in the completeſt manner. His experiment was often repeated, and ſoon became famous, exciting great controverſies among

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Fig. 4.

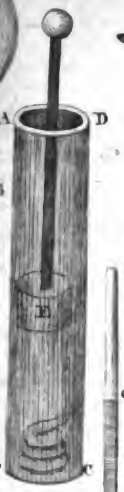


Fig. 2.

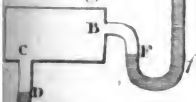


Fig. 6.

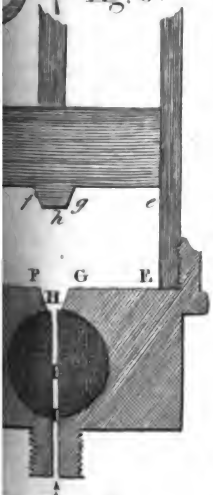


Fig. 9.

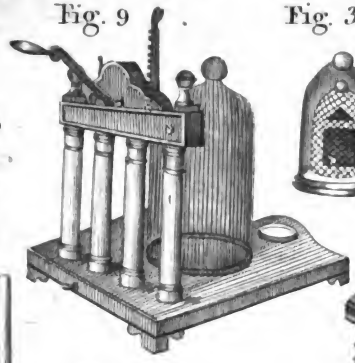


Fig. 33.

Fig. 10.

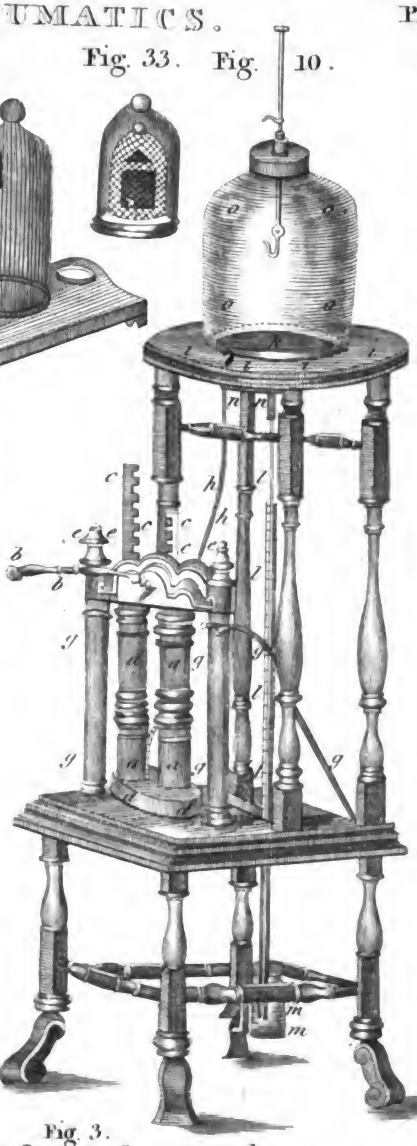


Fig. 8.

Fig. 3.

Fig. 5.

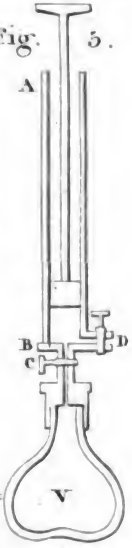
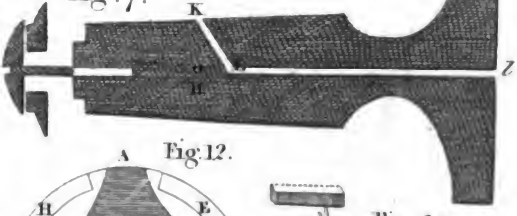


Fig. 3.

Fig. 7.



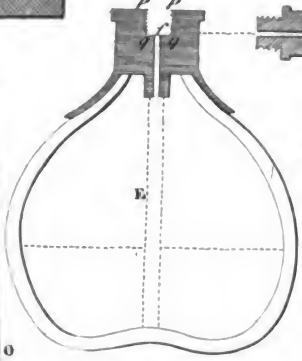


Fig. 11.

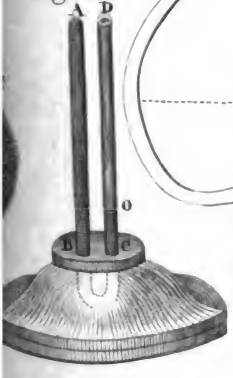


Fig. 32.

Fig. 12.

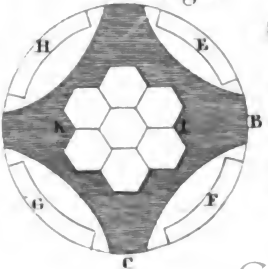


Fig. 35.

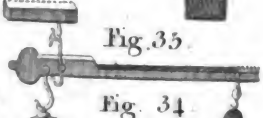


Fig. 34.

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mong the philoſophers about the poſſibility of a vacuum.

This was the era of philoſophical ardour; to which Galileo's invention and application of the teleſcope gave uncommon vigour. Diſcoveries of the moſt wonderful kind in the heavens, and which required no extent of previous knowledge o underſtand them, were thus put into the hands f every perſon who could purchaſe a ſpy-glaſs; hile the high degree of credibility which ſome f the diſcoveries, ſuch as the phaſes of Venus nd the rotation and ſatellites of Jupiter, gave to e Copernican ſyſtem, immediately ſet the whole ody of the learned in motion. Galileo joined his ardour a great extent of learning, particuly of mathematical knowledge and ſound loc, and was even the firſt who formally united athematics with phyſics; his treatiſe on acceleted motion was the firſt fruit of this union. Aout 1641 and 1644, many gentlemen aſſociated Oxford and London for the cultivation of owledge by experiment; and before 1655, all e doctrines of hydroſtatics and pneumatics were nilar. Mr Boyle procured a coalition and corſpondence of theſe clubs under the name of the *viſible* and *Philoſophical Society*. In May 1658, Hooke finiſhed for Mr Boyle an air-pump, ich had employed him a long time. He ſpeaks this as a great improvement on Mr Boyle's n pump, which he had been uſing ſome time ore. Boyle therefore muſt have invented his -pump, and was not indebted for it to Schot-'s account of Otto Gu-rick's, publiſhed in his hottus's) *Mechanica Hydraulopneumatica*, in 7, as he aſſerts. *(Techna Curioſa.)* The yal Society of London aroſe in 1656 from the lition of theſe clubs, after 15 years co-opera- and correſpondence. The Montmorine So- at Paris had ſubſiſted about the ſame time; Paſchal in 1648 ſpeaks of the meetings in the onne College, from which that ſociety origi-d.—Nuremberg, in Germany, was alſo a diſuiſhed ſeminary of experimental philoſophy. ly, indeed, there had long exiſted inſtituns of this kind. Rome was the centre of church rnment, and the reſort of all expectants for rment. The clergy were the majority of earned in all Chriſtian nations, and particuof the ſyſtematic philoſophers. Thus the riments of Galileo and Torricelli were rapidffuſed by perſons of rank, the dignitaries of hurch, and by the monks.

ALILEO was in fact the author of the experiwhen he propoſed it to be made. Valeria-Magnus owns himſelf indebted to him for the iple and the contrivance of it. It is neither derful that many ingenious men, of one opiand inſtructed by Galileo, ſhould ſeparate-on ſo obvious a thing; nor that Torricelli, mediate diſciple, his enthuſiaſtic admirer, ho was in the habits of correſponding with ill his death in 1642, ſhould be the firſt to in practice. All now agree in giving Tor-the honour of the *firſt* invention; and it rſally paſſes by the name of the TORRICEL-EXPERIMENT. The tube is called the ICELLIAN TUBE; and the ſpace left by the ry is called the TORRICELLIAN VACUUM, to diſtinguiſh it from the BOYLEAN VACUUM, which is only an extreme rarefaction. The experiment was repeated in various forms, and with apparatus which enabled philoſophers to examine ſeveral effects which the vacuum produced on bodies expoſed in it. This was done by making the upper part of the tube terminate in a veſſel of ſome capacity, or communicate with ſuch a veſſel, in which were included along with the mercury bodies on which the experiments were to be made. When the mercury had run out, the phenomena of theſe bodies were carefully obſerved.

An objection was made to the concluſion drawn from Torricelli's experiment, which appears formidable. If the Torricellian tube be ſuſpended on the arm of a balance, it is found that the counterpoiſe muſt be equal to the weight both of the tube and of the mercury it contains. This could not be, ſay the objectors, if the mercury were ſupported by the air. It is evidently ſupported by the balance; and this gave riſe to another notion of the cauſe different from the peripatetic *fuga vacui*: a ſuſpenſive force, or rather attraction, was aſſigned to the upper part of the tube. But the true explanation of the phenomenon is eaſy and ſatisfactory. Suppoſe the mercury in the ciſtern and tube to freeze, but without adhering to the tube, ſo that the tube could be freely drawn up and down. In this caſe the mercury is ſupported by the baſe, without any dependence on the preſſure of the air; the tube is in the ſame condition as before, and the ſolid mercury performs the office of a piſton to this kind of ſyringe. Suppoſe the tube thruſt down till the top of it touches the top of the mercury. It is evident that it muſt be drawn up in oppoſition to the preſſure of the external air, and it is preciſely ſimilar to the ſyringe mentioned above. The weight ſuſtained therefore by this arm of the balance is the weight of the tube and the downward preſſure of the atmoſphere on its top. The curioſity of philoſophers being thus excited by this very manageable experiment, it was natural now to try the original experiment propoſed by Galileo. Accordingly Berti in Italy, Paſchal in France, and many others in different places, made the experiment with a tube filled with water, wine, oil, &c. and had all with the ſucceſs which might be expected in ſo ſimple a matter: and the doctrine of the weight and preſſure of the air was deciſively eſtabliſhed beyond contradiction of doubt, before 1648.

The doctrine of the gravity and preſſure of the air being thus eſtabliſhed by the moſt unexceptionable evidence, we are entitled to aſſume it as a ſtatical principle, and to affirm *a priori* all its legitimate conſequences.

Hence we obtain an exact meaſure of the preſſure of the atmoſphere. It is preciſely equal to the weight of the column of mercury, of water, oil, &c. which it can ſupport; and the Torricellian tube, or others fitted up upon the ſame principle, are juſtly termed *baroſcopes* and *barometers* with reſpect to the air. Now water is ſupported at the height of 32 feet nearly: The weight of the column is exactly 2000lb. avoirdupois on every ſquare foot of baſe, or 13 and nine 10ths on every ſquare inch. The ſame concluſion very nearly may be drawn from the columns of

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of mercury, which is nearly 29½ inches high when in equilibrium with the preſſure of the air. The meaſure taken from the height of a column of water, wine, ſpirits, and the other fluids of conſiderable volatility, is not ſo exact as that taken from mercury, oil, and the like. For the volatile fluids are converted by the ordinary heat of our climates into vapour when the confining preſſure of the air is removed; and this vapour, by its elaſticity, exerts a ſmall preſſure on the ſurface of the water, &c. in the pipe, and thus counteracts a ſmall part of the external preſſure; and therefore the column ſupported by the remaining preſſure muſt be lighter, that is, ſhorter. Thus it is found, that rectified ſpirits will not ſtand much higher than is competent to a weight of 13 lb. on an inch, the elaſticity of its vapour balancing about $\frac{1}{15}$ of the preſſure of the air.

The medium height of the mercury in the barometer being 29½ inches, we ſee that the whole globe ſuſtains a preſſure equal to the whole weight of a body of mercury of this height: and that all bodies on its ſurface ſuſtain a part of this in proportion to their ſurfaces. An ordinary ſized man ſuſtains a preſſure of ſeveral thouſand pounds. How comes it then that we are not ſenſible of a preſſure which one ſhould think enough to cruſh us together? This has been conſidered as a ſtrong objection to the preſſure of the air; for when a man is plunged a few feet under water, he is very ſenſible of the preſſure. The anſwer is by no means eaſy. We feel very diſtinctly the effects of removing this preſſure from any part of the body. If any one will apply the open end of a ſyringe to his hand, and then draw up the piſton, he will find his hand ſucked into the ſyringe with great force, and it will give pain; and the ſoft part of the hand will ſwell into it, being preſſed in by the neighbouring parts, which are ſubject to the action of the external air. If one lays his hand on the top of a long perpendicular pipe, ſuch as a pump filled to the brim with water, which is at firſt prevented from running out by the valve below; and if the valve be then opened, ſo that the water deſcends, he will then find his hand ſo hard preſſed to the top of the pipe that he cannot draw it away. But why do we only feel the *inequality* of preſſure? There is a ſimilar inſtance wherein we do not feel it, although we cannot doubt of its exiſtence. When a man goes ſlowly to a great depth under water in a diving-bell, we know unqueſtionably that he is expoſed to a new and very great preſſure, yet he does not feel it. But theſe facts are not ſufficiently familiar for general argument. The human body is a bundle of ſolids, hard or ſoft, filled or mixed with fluids, and there are few or no parts of it which are empty. All communicate either by veſſels or pores; and the whole ſurface is a ſieve through which the inſenſible perſpiration is performed. The whole extended ſurface of the lungs is open to the preſſure of the atmoſphere; every thing is therefore in equilibrio: and if free or ſpeedy acceſs be given to every part, the body will not be damaged by the preſſure, however great, any more than a wet ſponge would be deranged by plunging it any depth in water. The preſſure is inſtantaneouſly diffuſed by means of the incompreſſible fluids with which the parts are filled; and if any parts are filled with air or other compreſſible fluids, theſe are compreſſed till their elaſticity again balances the preſſure. Beſides, all our fluids are acquired ſlowly and gradually mixed with the proportion of air which they can diſſolve or contain. The whole animal has grown up in the manner from the firſt vital atom of the embryo. For ſuch reaſons the preſſure can occaſion no change of ſhape by ſqueezing together the ſoft ſible parts; nor any obſtruction by compreſſing the veſſels or pores. We cannot ſay what would be felt by a man, were it poſſible that he could have been produced and grown up *in vacuo*, and then ſubjected to the compreſſion. We ever know that any ſudden and conſiderable change of general preſſure is very ſeverely felt. Perſons in a diving-bell have been almoſt killed by letting them down or drawing them up too ſuddenly. In coming up, the elaſtic matters within have ſuddenly ſwelled, and not finding an immediate exit have burſt the veſſels. Dr Haliy experienced this, the blood guſhing out from his ears by the expanſion of air contained in the internal cavities of this organ, from which there are but very narrow paſſages.

Here a very important obſervation recurs: the preſſure of the atmoſphere is variable. This was obſerved almoſt as ſoon as philoſophers began to attend to the barometer. Paſchal obſerved it in France, and Deſcartes in Sweden in 1660. Mr Boyle and others obſerved it in England in 1660. And before this, obſervers, who took notice of the concomitancy of theſe changes of aerial preſſure with the ſtate of the atmoſphere, remarked that it was generally greateſt in winter and in the night; and certainly moſt variable during winter and in the northern regions. Familiar now with the weight of the air, and conſidering it as the vehicle of the clouds and vapours, they obſerved with care the connection between the weight and the preſſure of the air, and found that great preſſure of the air was generally accompanied with fair weather, and a diminution of it with rain and miſts. Hence the barometer came to be conſidered as an index not only of the ſtate of the air's weight, but alſo as indicating by its variations changes of weather. It became a WEATHER GLASS, and continued to be anxiouſly obſerved with this view.

In the next place, we may conclude that the preſſure of the air will be different in different places, according to their elevation above the level of the ocean: for if air be a heavy fluid, it muſt gravitate in proportion to its perpendicular height. For if it be a homogeneous fluid of equal denſity and weight in all its parts, the mercury in the tube of a barometer muſt be preſſed preciſely in proportion to the depth to which that ciſtern is immerſed in it; and as this preſſure is exactly meaſured by the height of the mercury in the tube, the height of the mercury in the Torricellian tube muſt be exactly proportional to the depth of the place of obſervation under the ſurface of the atmoſphere.

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DESCARTES first entertained this thought (Epist. 9. of Pr. III.), and soon after him PASCHAL; who ublished an account of this great experiment (*Grande Exp. sur la Pesanteur de l'Air*), and it as quickly repeated in many places of the world. 1653 it was repeated in England by Dr POWER (*Power's Exper. Phil.*); and in Scotland, in 1661, y Mr SINCLAIR professor of philosophy in the uiversity of Glasgow, who observed the barometer Lanark, on the top of mount Tintock in Clydsle, and on the top of Arthur's Seat at Edinrgh. He found a depression of two inches beeen Glasgow and the top of Tintock, $\frac{1}{4}$ of an ch between the bottom and top of Arthur's Seat, d five 3ads of an inch at the cathedral of Glasw on a height of 126 feet. See Sinclair's *Ars ova et Magna Gravitatis et Levitatis; Sturmii llegium Experimentale*, and *Schotti Technica Cusa*.

Hence is derived a method of measuring the ights of mountains. Having ascertained with at precision the elevation corresponding to a tall one tenth of an inch of mercury, which is near90 feet, we have only to observe the length of mercurial column at the top and bottom of mountain, and to allow 90 feet for every tenth an inch. Accordingly this method has been ctised with great success: but it requires an attion to many things not yet considered, such as change of density of the mercury by heat and ld; the changes of density of the air, which are ch more remarkable from the same causes; and ve all, the changes of the density of air from compressibility; a change immediately connecd with or dependent on the very elevation we sh to measure.

These observations give us the most accurate asure of the density of the air and its specific vity. This is but vaguely, though directly, asured by weighing air in a bladder or vessel. e weight of a manageable quantity is so small, t a balance sufficiently tickish to indicate even y sensible fractions of it is overloaded by the ight of the vessel which contains it, and ceases be exact: and when we take Bernoulli's ingeus method of suspending it in water, we expose selves to great risk of error by the variation of water's density. Also it must necessarily be nid air which we can examine in this way: but proportion of an elevation in the atmosphere he depression of the column of mercury or o- fluid, by which we measure its pressure, gives t once the proportion of this weight, or their ific gravity. Thus since in such a state of pres- the barometer stands at 30 inches, and the mometer at 32°, 87 feet of rise produces one of an inch of fall in the barometer, the air the mercury being both of the freezing temture, we must conclude that mercury is 10,440 s heavier or denser than air. Then, by comng mercury and water, we get one 801 nearly the density of air relative to water: but this es so much by heat and moisture, that it is use- to retain any thing more than a general notion ; nor is it easy to determine whether this me- l or that by actual weighing is preferable. It tremely difficult to observe the height of the cury in the barometer nearer than one 200th of an inch; and this will produce a difference of even five feet, or one 26th of the whole. Perhaps this is a greater proportion than the error in weighing.

From the same experiments we also derive some knowledge of the height of the aerial covering which surrounds our globe. When we raise our barometer 87 feet above the surface of the sea, the mercury falls about one tenth of an inch in the barometer: therefore if the barometer shows 30 inches at the sea-shore, we may expect that, by raising it 300 times 87 feet or 5 miles, the mercury in the tube will descend to the level of the cistern, and that this is the height of our atmosphere. But other appearances lead us to suppose a much greater height. Meteors are seen with us much higher than this, and which yet give undoubted indication of being supported by our air. There can be little doubt, too, that the visibility of the expanse above us is owing to the reflection of the sun's light by our air. Were the heavenly spaces perfectly transparent, we should no more see them than the purest water through which we see other objects; and we see *them* as we see water tinged with milk or other faeculæ. Now it is easy to show, that the light which gives us what is called twilight must be reflected from the height of at least 50 miles; for we have it when the sun is depressed 18° below our horizon.

An attention to the constitution of our air may convince us, that the atmosphere must extend to a much greater height than 300 times 87 feet. We see from the most familiar facts that it is compressible; we can squeeze it in an ox-bladder. It is also heavy; pressing on the air in this bladder with a very great force, not less than 1500 lb. We must therefore consider it as in a state of compression, existing in smaller room than it would assume if it were not compressed by the incumbent air. It must be in a condition something resembling that of a quantity of fine carded wool thrown loosely into a deep pit; the lower strata carrying the weight of the upper strata, and being compressed by them; and so much the more compressed as they are further down, and only the upper stratum in its unconstrained and most expanded state. If we shall suppose this wool thrown in by a hundred weight at a time, it will be divided into strata of equal weights, but of unequal thickness; the lowest being the thinnest, and the superior strata gradually increasing in thickness. Now, suppose the pit filled with air, and reaching to the top of the atmosphere, the *weights* of all the strata above any horizontal plane in it is measured by the height of the mercury in the Torricellian tube placed in that plane; and one tenth of an inch of mercury is just equal to the weight of the lowest stratum 87 feet thick; for on raising the tube 87 feet from the sea, the surface of the mercury will descend one tenth of an inch. Raise the tube till the mercury fall another tenth: This stratum must be more than 87 feet thick; how much more we cannot tell, being ignorant of the law of the air's expansion. In order to make it fall a third tenth, we must raise it through a stratum still thicker; and so on continually. All this is abundantly confirmed by various experiments.

Having thus considered the leading consequen-

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ces of the air's fluidity and gravity, let us consider its compressibility; and then, combining the agency of both, we shall discover the laws, explain the phenomena of nature, and improve art. All fluids are elastic and compressible as well as air; but in them the compressibility makes no figure, or does not interest us while we are considering their pressures, motions, and impulsions. But in air the compressibility and expansion draw our chief attention, and make it a proper representative of this class of fluids.

Nothing is more familiar than the compressibility of air. It is seen in a bladder filled with it, which we can forcibly squeeze into less room; it is seen in a syringe, of which we can push the plug farther and farther as we increase the pressure. But these appearances bring into view another, and the most interesting, property of air, *viz.* its ELASTICITY. When we have squeezed the air in the bladder or syringe into less room, we find that the force with which we *compressed* it is necessary to *keep it in this bulk*; and that if we cease to press it together, it will swell out and regain its natural dimensions. This distinguishes it essentially from such a body as a mass of flour, salt, or such like, which remain in the compressed state to which we reduce them.

There is therefore something which opposes the compression different from the simple impenetrability of the air: there is something that opposes mechanical force: there is something too which produces motion, not only resisting compression, but pushing back the compressing body, and communicating motion to it. As an arrow is gradually accelerated by the bow-string pressing it forward, and at the moment of its discharge is brought to a state of rapid motion; so the ball from a pop-gun or wind-gun is gradually accelerated along the barrel by the pressure of the air during its expansion from its compressed state, and finally quits it with an accumulated velocity. These two motions are indications perfectly similar of the elasticity of the bow and of the air.

Thus it is evident that air is heavy and elastic. It needs little consideration to convince us that it is fluid. The ease with which it is penetrated, and driven about in every direction, and the motion of it in pipes and channels, however crooked and intricate, entitle it to this character. But before we can proceed to deduce consequences from its fluidity, and to offer them as a true account of what will happen in these circumstances, it is necessary to exhibit some distinct and simple case, in which the characteristic mechanical property of a fluid is clearly and unequivocally observed in it. That property of fluids from which all the laws of hydrostatics and hydraulics are derived with the strictest evidence is, that any pressure applied to any part of them is propagated through the whole mass in every direction; and that in consequence of this diffusion of pressure, any two external forces can be put in equilibrio by the interposition of a fluid, in the same way as they can be put in equilibrio by the intervention of any mechanical engine.

Let a close vessel ABC (*Pl.* 278, *fig.* 2.) of any form, have two upright pipes EDC, GFB, inserted into any parts of its top, sides, or bottom, and let water be poured into them, so as to stand in equilibrio with the horizontal surfaces at E, D, G, F, and let D *d*, F *f*, be horizontal lines, it will be found that the height of the column E *d* is sensibly equal to that of the column G *f*. This is a fact universally observed in whatever way the pipes are inserted. Now the surface of the water at D is undoubtedly pressed upwards with a force equal to a column of water, having its surface for its base, and E *d* for its height; it is therefore prevented from rising by some opposite force. This can be nothing but the elasticity of the confined air pressing it down. The very same thing must be said of the surface at F; and thus there are two external pressures at D and F set in equilibrio by the interposition of air. The force exerted on the surface D, by the pressure of the column E *d*, is therefore propagated to the surface at F; and thus air has this characteristic mark of fluidity.

In this experiment the *weight* of the air is insensible when the vessel is of small size, and has no sensible share in the pressure reaching at D and F. But if the elevation of the point F above D is very great, the column E *d* will be observed sensibly to exceed the column G *f*. Thus if F be 70 feet higher than D, E *d* will be an inch longer than the column G *f*: for in this case there is reaching at D, not only the pressure propagated from F, but also the weight of a column of air, having the surface at D for its base, and 70 feet high. This is equal to the weight of a column of water one inch high. It is by this propagation of pressure, this ELASTICITY, that the pellet is discharged from a child's pop-gun. It sticks fast in the muzzle; and he forces in another pellet at the other end, which he presses forward with the rammer, condensing the air between them, and thus propagating to the other pellet the pressure which he exerts, till the friction is overcome, and the pellet is discharged by the air expanding and following it.

We may now apply to air all the laws of HYDROSTATICS and HYDRAULICS, perfectly confident that their legitimate consequences will be observed in all its situations. We shall in future substitute, in place of any force acting on a surface of air, a column of water, mercury, or any other fluid whose weight is equal to this force: and as we know distinctly from theory what will be the consequences of this hydrostatic pressure, we shall determine *à priori* the phenomena in air; and in cases where theory does not enable us to say with precision what is the effect of this pressure, experience informs us in the case of water, and analogy enables us to transfer this to air. We shall find this of great service in some cases, which otherwise are almost desperate in the present state of our knowledge. From such familiar and simple observations and experiments, the fluidity, the heaviness, and elasticity, are discovered of that substance with which we are surrounded, and which we call *air*. But to understand these properties, and completely to explain their numerous and important consequences, we must call in the aid of more refined observations and experiments which even this scanty knowledge of them enables us to make; we must contrive some methods of producing with precision any degree of condensation or rarefaction, of employing or excluding the gra-

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vitating preſſure of air, and of modifying at pleaſure the action of all its mechanical properties.

To compreſs a quantity of air to any degree, Take a cylinder or priſmatic tube AB (*Pl.* 278, *fig.* 3.) ſhut at one end, and fit it with a piſton or plug C, ſo nicely that no air can paſs by its ſides. This will be beſt done in a cylindric tube by a turned ſtopper, covered with oiled leather, and fitted with a long handle CD. When this is thruſt down, the air which formerly occupied the whole capacity of the tube is *condenſed* into leſs room. The force neceſſary to produce any degree of compreſſion may be concluded from the weight neceſſary for puſhing down the plug to any depth. But this inſtrument leaves us little opportunity of making intereſting experiments on or in this condenſed air; and the force required to make any degree of compreſſion cannot be meaſured with much accuracy; becauſe the piſton muſt be very cloſe, and have great friction, in order to be ſufficiently tight: And as the compreſſion is increaſed, the leather is more ſqueezed to the ſide of the tube; and the proportion of the external force, which is employed merely to overcome this variable and uncertain friction, cannot be aſcertained with any tolerable preciſion.

To get rid of theſe imperfections, the following addition may be made to the inſtrument, which then becomes what is called the *condenſing ſyringe*. The end of the ſyringe is perforated with a very ſmall hole *e f*; and being externally turned to a ſmall cylinder, a narrow ſlip of bladder, or of thin leather, ſoaked in a mixture of oil and tallow, muſt be tied over the hole. Suppoſe the piſton puſhed down to the bottom of the barrel to which it applies cloſe; when it is drawn up to the top, it leaves a void behind, and the weight of the external air preſſes on the ſlip of bladder, which therefore claps cloſe to the braſs, and thus performs the part of a valve, and keeps it cloſe ſo that no air can enter. But the piſton having reached the top of the barrel, a hole F in the ſide of it is juſt below the piſton, and the air ruſhes through this hole and fills the barrel. Puſh the piſton down again, it immediately paſſes the hole F, and no air eſcapes through it; it therefore forces open the valve at *f*, and eſcapes while the piſton moves to the bottom.

Let E be any veſſel, ſuch as a glaſs bottle, having its mouth furniſhed with a braſs cap firmly cemented to it, having a hollow ſcrew which fits a ſolid ſcrew *p q*, turned on the cylindric nozzle of the ſyringe. Screw the ſyringe into this cap, and it is evident that the air forced out of the ſyringe will be accumulated in this veſſel: for upon drawing up the piſton the valve *f* always ſhuts by the elaſticity or expanding force of the air in E; and on puſhing down again, the valve will open as ſoon as the piſton has got ſo far down that the air in the lower part of the barrel is more powerful than the air already in the veſſel. Thus at every ſtroke an additional barrelful of air will be forced into the veſſel E; and it will be found, that after every ſtroke the piſton muſt be farther puſhed down before the valve will open. It cannot open till the preſſure ariſing from the elaſticity of the air condenſed in the barrel is ſuperior to the elaſticity of the air condenſed in the veſſel; that is, till the condenſation of the firſt, or its denſity, is *ſomewhat* greater than that of the laſt, in order to overcome the ſtraining of the valve on the hole and the ſticking occaſioned by the clammy matter employed to make it air-tight.

Sometimes the ſyringe is conſtructed with a valve in the piſton. This piſton, inſtead of being of one piece and ſolid, conſiſts of two pieces perforated. The upper part *i k n m* is connected with the rod or handle, and has its lower part turned down to a ſmall cylinder, which is ſcrewed into the lower part *k l o n*; and has a perforation *g h* going up in the axis, and terminating in a hole *h* in one ſide of the rod, a piece of oiled leather is ſtrained acroſs the hole *g*. When the piſton is drawn up and a void left below it, the weight of the external air forces it through the hole *h g*, opens the valve *g*, and fills the barrel. Then, on puſhing down the piſton, the air being ſqueezed into leſs room, preſſes on the valve *g*, ſhuts it; and none eſcaping through the piſton, it is gradually condenſed as the piſton deſcends till it opens the valve *f*, and is added to that already accumulated in the veſſel E.

Having thus forced a quantity of air into the veſſel E, we can make many experiments in it in this ſtate of condenſation. We are chiefly concerned at preſent with the effect which this produces on its elaſticity. We ſee this to be greatly increaſed; for we find more and more force required for introducing every ſucceſſive barrelful. When the ſyringe is unſcrewed, we ſee the air ruſh out with great violence, and every indication of great expanding force. If the ſyringe be connected with the veſſel E in the ſame manner as the ſyringe before deſcribed, by interpoſing a ſtop-cock B between them, (ſee *fig.* 1.) and if this ſtop-cock have a pipe at its extremity, reaching near to the bottom of the veſſel, which is previouſly half filled with water, we can obſerve diſtinctly when the elaſticity of the air in the ſyringe exceeds that of the air in the receiver: for the piſton muſt be puſhed down a certain length before the air from the ſyringe bubbles up through the water, and the piſton muſt be farther down at each ſucceſſive ſtroke before this appearance is obſerved. When the air has thus been accumulated in the receiver, it preſſes the ſides of it outward, and it will burſt if not ſtrong enough. It alſo preſſes on the ſurface of the water; and if we now ſhut the cock, unſcrew the ſyringe, and open the cock again, the air will force the water through the pipe with great velocity, cauſing it to riſe in a beautiful jet. When a metal receiver is uſed, the condenſation may be puſhed to a great length, and the jet will then riſe to a great height; which gradually diminiſhes as the water is expended and room given to the air to expand itſelf. See *fig.* 3.

It is accurately meaſured by a gage fitted to the inſtrument. A glaſs tube GH of a cylindric bore, and cloſe at the end, is ſcrewed into the ſide of the cap on the mouth of the veſſel E. A ſmall drop of water or mercury is taken into this tube by warming it a little in the hand, which expands the contained air, ſo that when the open end is dipped into water, and the whole allowed to cool, the water advances a little into the tube. The tube is furniſhed with a ſcale divided into ſmall

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equal parts, numbered from the close end of the tube. Since this tube communicates with the vessel, it is evident that the condensation will force the water along the tube, acting like a piston on the air beyond it, and the air in the tube and vessel will always be of one density. Suppose the number at which the drop stands before the condensation is made to be c, and that it stands at d when the condensation has attained the degree required, the density of the air in the remote end of the gage, and consequently in the vessel, will be $\frac{c}{d}$.

Sometimes there is used a bit of tube close at one end, having a drop of water in it, simply laid into the vessel E, and furnished or not with a scale; but this can only be used with glass vessels, and these are too weak to resist the pressure arising from great condensation. In such experiments metalline vessels are used, fitted with a variety of apparatus for different experiments. Some of these will be occasionally mentioned afterwards.

Very great condensations require great force, and therefore small syringes. It is therefore convenient to have them of various sizes, and to begin with those of a larger diameter, which operate more quickly; and when the condensation becomes fatiguing, to change the syringe for a smaller. For this reason, and in general to make the condensing apparatus more convenient, it is proper to have a stop-cock interposed between the syringe and the vessel, or as it is usually called the receiver. This consists of a brass pipe, which has a well-ground cock in its middle, and has a hollow screw at one end, which receives the nozzle screw of the syringe, and a solid screw at the other end, which fits the screw of the receiver. See *fig.* 1.

By these gages, or similar contrivances, we can ascertain very great degrees of condensation in the course of some experiments. Dr Hales found, that when dry wood was put into a strong vessel, which it almost filled, and the remainder was filled, with water, the swelling of the wood, occasioned by its imbibition of water, condensed the air of his gage into the thousandth of its original bulk. He found that pease treated in the same way generated elastic air, which pressing on the air in the gage condensed it into the 1500th part of its bulk. This is the greatest condensation that has been ascertained with precision, although in other experiments it has certainly been carried much farther; but the precise degree could not be ascertained. The only use to be made of this observation at present is, that since we have been able to exhibit air in a density a thousand times greater than the ordinary density of the air we breathe, it cannot, as some imagine, be only a different form of water; for in this state it is as dense or denser than water, and yet retains its great expansibility.

Another important observation is, that in every state of density in which we find it, it retains its perfect fluidity, transmitting all pressures which are applied to it with undiminished force, as appears by the equality constantly observed between the opposing columns of water or other fluid by which it is compressed, and by the facility with which all motions are performed in it in the most compressed states in which we can make observations of this kind. This fact is totally incompatible with the fanciful opinion of those who ascribe the elasticity of air to the springy ramified structure of its particles, touching each other like so many pieces of sponge.

We have seen that air is heavy and compressible, and might now proceed to deduce in order the explanation of the appearances consequent on each of these properties. But the elasticity of air modifies the effects of its gravity so remarkably, that they would be imperfectly understood if both qualities were not combined in our consideration of either. At any rate, some farther consequences of its elasticity must be considered, before we understand the means of varying at pleasure the effects of its gravity.

Since air is heavy, the lower strata of a mass of air must support the upper; and being compressible, they must be condensed by their weight. In this state of compression the elasticity of the lower strata of air acts in opposition to the weight of the incumbent air, and balances it. There is no reason which should make us suppose that its expanding force belongs to it only when in such a state of compression. It is more probable, that, if we could free it from this pressure, the air would expand into still greater bulk. This is most distinctly seen in the following experiment.

Into the cylindric jar ABCD (*fig.* 4.), which has a small hole in its bottom, and is furnished with an air-tight piston E, put a small flaccid bladder, having its mouth tied tight with a string. Having pushed the piston near to the bottom, and noticed the state of the bladder, stop up the hole in the bottom of the jar with the finger, and draw up the piston, which will require a considerable force. You will observe the bladder swell out, as if air had been blown into it; and it will again collapse on allowing the piston to descend. Nothing can be more unexceptionable than the conclusion from this experiment, that ordinary air is in a state of compression, and that its elasticity is not limited to this state. The bladder being flaccid, shows that the included air is in the same state with the air which surrounds it; and the same must be affirmed of it while it swells but still remains flaccid. We must conclude, that the whole air within the vessel expands, and continues to fill it, when its capacity has been enlarged. And since this is observed to go on as long as we give it more room, we conclude, that by such experiments we have not yet given it so much room as it can occupy.

It was a natural object of curiosity to discover the limits of this expansion; to know what was the natural unconstrained bulk of a quantity of air, beyond which it would not expand though all external compressing force were removed. Accordingly philosophers constructed instruments for *rarefying* the air. The common water-pump had been long familiar, and appeared very proper for this purpose: The most obvious is the following:—Let the barrel of the syringe AB (*fig.* 5.) communicate with the vessel V, with a stop-cock C between them. Let it communicate with the

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the external air by another orifice D, in any convenient ſituation, alſo furniſhed with a ſtopcock. Let this ſyringe have a piſton very accurately fitted to it, ſo as to touch the bottom all over when puſhed down, and have no vacancy about the ſides. Suppoſe the piſton at the bottom, the cock C open, and the cock D ſhut, draw the piſton to the top. The air which filled the veſſel V will expand ſo as to fill both that veſſel and the barrel AB; and as no reaſon can be given to the contrary, we muſt ſuppoſe that the air will be uniformly diffuſed through both. Calling V and B the capacity of the veſſel and barrel, it is plain that the bulk of the air will now be V+B; and ſince the quantity of matter remains the ſame, and the denſity of a fluid is as its quantity of matter directly and its bulk inverſely, the denſity of the expanded air will be $\frac{V}{V+B}$, the denſity of common air being $\frac{V}{V+B}$: 1 : for V+B : V=1 : $\frac{V}{V+B}$.

The piſton requires force to raiſe it, and it is raiſed in oppoſition to the preſſure of the incumbent atmoſphere; for this had formerly been balanced by the elaſticity of the common air: and we conclude from the fact, *that force is required to raiſe the piſton*, that the elaſticity of the expanded air is leſs than that of air in its ordinary ſtate; and an accurate obſervation of the force neceſſary to raiſe it would ſhow how much the elaſticity is diminiſhed. When therefore the piſton is let go, it will deſcend as long as the preſſure of the atmoſphere exceeds the elaſticity of the air in the barrel; that is till the air in the barrel is in a ſtate of ordinary denſity. To put it further down will require force, becauſe the air muſt be compreſſed in the barrel; but if we now open the cock D, the air will be expelled through it, and the piſton will reach the bottom.

Now ſhut the *diſcharging cock* D, and open the cock C, and draw up the piſton, the air which occupied the ſpace V, with the denſity $\frac{V}{V+B}$, will now occupy the ſpace V+B, if it expands ſo far. To have its denſity D, ſay, As its preſent bulk V+B is to its former bulk V, ſo is its former denſity $\frac{V}{V+B}$ to its new denſity; which will therefore be $\frac{V \times V}{V+B \times V+B}$, or $\frac{V}{V+B}\Big|^2$.

It is evident, that if the air continues to expand, the denſity of the air in the veſſel after the third drawing up of the piſton will be $\frac{V}{V+B}\Big|^3$, after the fourth it will be $\frac{V}{V+B}\Big|^4$, and after any number of ſtrokes n will be $\frac{V}{V+B}\Big|^n$. Thus, if the veſſel is four times as large as the barrel, the denſity after the fifth ſtroke will be $\frac{1}{1}\frac{0}{2}\frac{2}{4}\frac{4}{8}$ nearly $\frac{1}{5}$ of its ordinary denſity.

On the other hand, the number n of ſtrokes neceſſary for reducing air to the denſity D is $\frac{\text{Log D}}{\text{Log V.—Log. (V+B.)}}$

Thus we ſee that this inſtrument can never abſtract the whole air in conſequence of its expanſion but only rarefy it continually as long as it continues to expand; nay, there is a limit beyond which the rarefaction cannot go. When the piſton has reached the bottom, there remains a ſmall ſpace between it and the cock C filled with common air. When the piſton is drawn up, this ſmall quantity of air expands, and alſo a ſimilar quantity in the neck of the other cock; and no air will come out of the receiver V till the expanded air in the barrel is of a ſmaller denſity than the air in the receiver. This circumſtance evidently directs us to make theſe two ſpaces as ſmall as poſſible, or by ſome contrivance to fill them up altogether. Perhaps this may be done effectually in the following manner.

Let BE (*fig.* 6.) repreſent the bottom of the barrel, and let the circle HKI be the ſection of the key of the cock, of a large diameter, and place it as near to the barrel as can be. Let this communicate with the barrel by means of an hole FG widening upwards, as the fruſtum of a hollow obtuſe cone. Let the bottom of the piſton *bfhge* be ſhaped ſo as to fit the bottom of the barrel and this hole exactly. Let the cock be pierced with two holes. One of them, HI, paſſes perpendicularly through its axis, and forms the communication between the receiver and barrel. The other hole, KL, has one extremity K on the ſame circumference with H, ſo that when the key is turned a fourth part round, K will come into the place of H: but this hole is pierced obliquely into the key, and thus keeps clear of the hole HI. It goes no further than the axis, where it communicates with a hole bored along the axis and terminating at its extremity. This hole forms the communication with the external air, and ſerves for diſcharging the air in the barrel. (A ſide view of the key is ſeen in *fig.* 7.) *Fig.* 5. ſhows the poſition of the cock while the piſton is moving upwards, and *fig.* 6 ſhows its poſition while the piſton is moving downwards. When the piſton has reached the bottom, the conical piece *fhg* of the piſton, which may be of firm leather, fills the hole FHG, and therefore completely expels the air from the barrel. The canal KLI of the cock contains air of the common denſity; but this is turned aſide into the poſition KL (*fig.* 6.), while the piſton is ſtill touching the cock. It cannot expand into the barrel during the aſcent of the piſton. In place of it the perforation HLI comes under the piſton, filled with air that had been turned aſide with it when the piſton was at the top of the barrel, and therefore of the ſame denſity with the air of the receiver. It appears therefore that there is no limit to the rarefaction as long as the air will expand.

This inſtrument is called an EXHAUSTING SYRINGE. It is more generally made in another form, which is much leſs expenſive, and more convenient in its uſe. Inſtead of being furniſhed with *cocks* for eſtabliſhing the communications and ſhutting them, as is neceſſary, it has *valves* like thoſe of the condenſing ſyringe, but opening in the oppoſite direction. It is thus made:

The pipe of communication or conduit MN (*fig.* 8.) has a male ſcrew in its extremity, and over

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ver this is tied a ſlip of bladder or leather M. The lower half of the piſton has alſo a male ſcrew on it, covered at the end with a ſlip of bladder O. This is ſcrewed into the upper half of the piſton, which is pierced with a hole H coming out of the ſide of the rod.

Now ſuppoſe the ſyringe ſcrewed to the conducting pipe, and that ſcrewed into the receiver V, and the piſton at the bottom of the barrel. When the piſton is drawn up, the preſſure of the external air ſhuts the valve O, and a void is left below the piſton: there is therefore no preſſure on the upper ſide of the valve M to balance the elaſticity of the air in the receiver, which formerly balanced the weight of the atmoſphere. The air therefore in the receiver lifts this valve, and diſtributes itſelf between the veſſel and the barrel; ſo that when the piſton has reached the top, the denſity of the air in both receiver and barrel is as before $\frac{V}{V+B}$.

When the piſton is let go, it deſcends, becauſe the elaſticity of the expanded air is not a balance for the preſſure of the atmoſphere, which therefore preſſes down the piſton with the difference, keeping the piſton-valve ſhut all the while. At the ſame time the valve M alſo ſhuts: for it was opened by the prevailing elaſticity of the air in the receiver, and while it is open the two airs have equal denſity and elaſticity; but the moment the piſton deſcends, the capacity of the barrel is diminiſhed, the elaſticity of its air increaſes by collapſing, and now prevailing over that of the air in the receiver ſhuts the valve M.

When it has arrived at ſuch a part of the barrel that the air in it is of the denſity of the external air, there is no force to puſh it farther down; the hand muſt therefore preſs it. This attempts to condenſe the air in the barrel, and therefore increaſes its elaſticity; ſo that it lifts the valve O and eſcapes, and the piſton gets to the bottom. When drawn up again, greater force is required than the laſt time, becauſe the elaſticity of the included air is leſs than in the former ſtroke. The piſton riſes further before the valve M is lifted up, and when it has reached the top of the barrel the denſity of the included air is $\frac{V}{V+B}|^2$. The piſton, when let go, will deſcend farther than it did before ere the piſton-valve open, and the preſſure of the hand will again puſh it to the bottom, all the air eſcaping through O. The rarefaction will go on at every ſucceſſive ſtroke in the ſame manner as with the other ſyringe.

This ſyringe is evidently more eaſy in its uſe, requiring no attendance to the cocks to open and ſhut them at the proper times. On this account this conſtruction of an exhauſting ſyringe is much more generally uſed.

But it is greatly inferior to the ſyringe with cocks with reſpect to its power of rarefaction. Its operation is greatly limited. It is evident that no air will come out of the receiver unleſs its elaſticity *exceed* that of the air in the barrel by a difference able to lift up the valve M. A piece of oiled leather tied acroſs this hole can hardly be made tight and certain of clapping to the hole, without ſome ſmall ſtraining, which muſt therefore be overcome. It muſt be very gentle indeed not to require a force equal to the weight of two inches of water, and this is equal to about the 200th part of the whole elaſticity of the ordinary air; and therefore this ſyringe, for this reaſon alone, cannot rarefy air above 200 times, even though it were capable of an indefinite expanſion. In like manner the valve O cannot be raiſed without a ſimilar prevalence of the elaſticity of the air in the barrel above the weight of the atmoſphere. Theſe cauſes united, make it difficult to rarefy the air more than 100 times, and very few ſuch ſyringes will rarify it more than 50 times; whereas the ſyringe with cocks, when new and in good order, will rarefy it 1000 times.

But, on the other hand, ſyringes with cocks are much more expenſive, eſpecially when furniſhed with apparatus for opening and ſhutting the cocks. They are more difficult to make equally tight, and (which is the greateſt objection) do not remain long in good order. The cocks, by ſo frequently opening and ſhutting, grow looſe, and allow the air to eſcape. No method has been found of preventing this. They muſt be ground tight by means of emery or other cutting powders. Some of theſe unavoidably ſtick in the metal, and continue to wear it down. For this reaſon philoſophers, and the makers of philoſophical inſtruments, have turned their chief attention to the improvement of the ſyringe with valves. We have been thus minute in our account of the operation of rarefaction, that the reader may better underſtand the value of theſe improvements, and in general the operation of the principal pneumatic engines.

SECT. II. *History of the* AIR-PUMP.

An AIR-PUMP is nothing but an exhauſting ſyringe accommodated to a variety of experiments. It was firſt invented by Otto Guericke, a gentleman of Magdeburgh in Germany, about the year 1654. See AIR-PUMP, and GUERICKE. This inſtrument, which now makes a principal article in a philoſophical apparatus, was at firſt very rude and imperfect, and therefore a deſcription of it in its original form is unneceſſary. But with all its defects, and ſlowneſs of operation, which, by the inventor's own account, took ſeveral hours to prepare it, Guericke exhibited with it many entertaining experiments before his friends upon the *rarefaction of air*. Being a counſellor and a gentleman of fortune, he made no ſecret of his invention, but allowed his friend Gaſpar Schottus, profeſſor of Mathematics at Wirtemberg, to publiſh a particular deſcription of it, in two of his works, in 1657, and 1664. His principal object, in the invention, was the exhauſtion of air, and in the proſecution of this, he diſcovered, that the *expanſion of air* is unlimited. This was a doctrine then quite new, and from his letter to Schottus on the ſubject, it appears that his manner of inveſtigation was as remarkable for philoſophical ingenuity as for modeſty. In another letter to Schottus he deſcribes very ingenious contrivances for producing complete rarefaction, after the elaſticity of the remaining air has been ſo far diminiſhed, that it is not able to open the valves. Theſe contrivances are

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of Guericke's have since been added to air-pumps, by Haas and Hurter, as new Inventions.

GUERICKE's doctrine and his machine soon made a noise all over Europe. About this period the foundations of the Royal Society of London were laid. Mr Boyle, Lord Brounker, Dr Wallis, Mr Wren, and other learned men, met at Oxford, and made various experiments on philosophical subjects. Mr Boyle having seen Schottus's first publication, began to construct a machine from his own ideas, no description of Guericke's being then published. This instrument, with the various interesting experiments he exhibited with it, soon eclipsed the fame of Guericke to such a degree, that the air-pump was called *Machina Boyleana*, and the state of air in the receiver *vacuum Boyleanum*. He soon made farther improvements.

Mr BOYLE, having discovered, that to make a vessel air-tight, it was sufficient to put a piece of wet or oiled leather on its brim, and to lay a flat piece of metal on this; and that the pressure of the external air squeezed the two solid bodies so hard together, that it was effectually excluded by the soft leather, he soon rendered the whole machine much more complete. In this he was assisted by Dr HOOKE, the most ingenious and inventive man of the age; who, by applying two syringes, whose piston rods were worked by the same wheel, as in fig. 9, and putting valves in the pistons, as in those of a common pump, not only doubled the expedition of the operation, but diminished the labour of pumping. This is therefore the form of the air-pump now generally used, with some trifling variations, all over Europe.

Mr BOYLE's air-pump, as finally improved by HAWKESBEE, which, with some accommodations to particular views, still remains the most approved form, consists of two brass barrels *a a*, *a a* (*fig.* 10. *Pl.* 278.) 12 inches high and 2 wide. The pistons are raised and depressed by turning the winch *b b*. This is fastened to an axis passing through a strong toothed wheel, which lays hold of the teeth of the racks *c c c c*. Then the one is raised while the other is depressed; by which means the valves, which are made of limber bladder, fixed in the upper part of each piston, as well as in the openings into the bottom of the barrels, performing their office of discharging the air from the barrels, and admitting into them the air from the receiver to be afterwards discharged; and when the receiver comes to be pretty well exhausted of its air, the pressure of the atmosphere in the descending piston is nearly so great, that the power acquired to raise the other is little more than is necessary for overcoming the friction of the piston, which renders this pump preferable to all others, which require more force to work them as the rarefaction of the air in the receiver advances. The barrels are set in a brass dish about two inches deep, filled with water or oil to prevent the insinuation of air. The barrels are screwed tight down by the nuts *e*, *e*, *e*, which force the frontispiece *f f* down on them, through which the two pillars *g g*, *g g* pass.

From between the barrels rises a slender brass pipe *b b*, communicating with each by a perforation in the transverse piece of brass on which they stand. The upper end of this pipe communicates with another perforated piece of brass, which screws on underneath the plate *i i i i*, of ten inches diameter, and surrounded with a brass rim to prevent the shedding of water used in some experiments. This piece of brass has three branches: 1st, An horizontal one communicating with the conduit-pipe *b b*. 2. An upright one screwed into the middle of the pump-plate, and terminating in a small pipe *k*, rising about an inch above it. 3d, Is a perpendicular one, looking downwards in the continuation of the pipe *k*, and having a hollow screw in its end receiving the brass cap of the gage-pipe *l l l l*, which is of glass, 34 inches long and immersed in a glass cistern *m m* filled with mercury. This is covered a-top with a cork float, carrying the weight of a light wooden scale divided into inches, which are numbered from the surface of the mercury in the cistern. This scale will therefore rise and fall with the mercury in the cistern, and indicate the true elevation of that in the tube.

There is a stopcock immediately above the insertion of the gage-pipe, by which its communication may be cut off. There is another at *n*, by which a communication is opened with the external air for allowing its readmission; and there is sometimes another immediately within the insertion of the conduct-pipe for cutting off the communication between the receiver and the pump. This is particularly useful when the rarefaction is to be continued long, as there are by these means fewer chances of the insinuation of air by the many joints.

The receivers are made tight by simply setting them on the pump-plate with a piece of wet or oiled leather between; and the receivers, which are open a-top, have a brass cover set on them in the same manner. In these covers there are various perforations and contrivances for various purposes. The one in the figure has a slip wire passing through a collar of oiled leather, having a hook or a screw in its lower end for hanging any thing on or producing a variety of motions. Sometimes the receivers are set on another plate, which has a pipe screwed into its middle, furnished with a stopcock and a screw, which fits the middle pipe *k*. When the rarefaction has been made in it, the cock is shut, and then the whole may be unscrewed from the pump, and removed to any convenient place. This is called a *transporter plate*.

The elasticity of the gage, *l l l l*, in the ordinary state of the air balances the pressure of the incumbent atmosphere. We find this from the force that is necessary to squeeze it into less bulk in opposition to this elasticity. Therefore the elasticity of the air increases with the vicinity of its particles. It is therefore reasonable to expect, that when we allow it to occupy more room, and its particles are farther asunder, its elasticity will be diminished though not annihilated; that is, it will no longer balance the WHOLE pressure of the atmosphere, though it may still balance part of it. If therefore an upright pipe have its lower end immersed in a vessel of mercury, and communicate by its upper end with a vessel containing rarefied, therefore less elastic, air, we should expect that the pressure of the air will prevail, and force the mercury into the tube, and cause it to rise to such an

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an height that the weight of the mercury, joined to the elaſticity of the rarefied air acting on its upper ſurface, ſhall be exactly equal to the whole preſſure of the atmoſphere. The height of the mercury is the exact meaſure of that part of the whole preſſure which is not balanced by the elaſticity of the rarefied air, and its deficiency from the height of the mercury in the Torricellian tube is the exact meaſure of this remaining elaſticity.

It is evident, therefore, that the pipe will be a ſcale of the elaſticity of the remaining air, and will indicate in ſome ſort the degree of rarefaction: for there muſt be ſome analogy between the denſity of the air and its elaſticity. After rarefying till the mercury in the gage has attained half the height of that in the Torricellian tube, ſhut the communication with the barrels and gage, and admit the water into the receiver. It will go in till all is again in equilibrio with the preſſure of the atmoſphere; that is, till the air in the receiver has collapſed into its natural bulk. This we can accurately meaſure, and compare with the whole capacity of the receiver; and thus obtain the preciſe degree of rarefaction correſponding to half the natural elaſticity. We can do the ſame thing with the elaſticity reduced to one third, one fourth, &c. and thus diſcover the whole law.

This gage muſt be conſidered as one of the moſt ingenious and convenient parts of Hawkſbee's pump; and it is well diſpoſed, being in a ſituation protected againſt accidents: but it neceſſarily increaſes greatly the ſize of the machine, and cannnot be applied to the table-pump, repreſented in *fig.* 9. When it is wanted here, a ſmall plate is added behind, or between the barrels and receiver; and on this is ſet a ſmall *tubulated receiver*, covering a common weather-glaſs tube.—This receiver being rarefied along with the other, the preſſure on the mercury in the ciſtern, ariſing from the elaſticity of the remaining air, is diminiſhed ſo as to be no longer able to ſupport the mercury at its full height; and it therefore deſcends till the height at which it ſtands puts it in equilibrio with the elaſticity. In this form, therefore, the height of the mercury is directly a meaſure of the remaining elaſticity; while in the other it meaſures the remaining unbalanced preſſure of the atmoſphere. But this gage is extremely cumberſome, and liable to accidents. We are ſeldom much intereſted in the rarefaction till it is great: a contracted form of this gage is therefore very uſeful, and was early uſed. A ſyphon ABCD (*fig.* 11.), each branch of which is about 4 inches long, cloſe at A and open at D, is filled with boiling mercury till it occupies the branch AB and a very ſmall part of CD, having its ſurface at O. This is fixed to a ſmall ſtand, and fixed into the receiver, along with the things that are to be exhibited in the rarefied air. When the air has been rarefied till its remaining elaſticity is not able to ſupport the column BA, the mercury deſcends in AB, and riſes in CD, and the remaining elaſticity will always be meaſured by the elevation of the mercury in AB above that in the leg CD.

The barometer or ſyphon gage is a perfect indication and meaſure of the performance of an air-pump, and a pump is *(ceteris paribus)* ſo much the more perfect, as it is able to raiſe the mercury higher in the gage. Thus we diſcover that none can produce a complete exhauſtion, and that their operation is only a very great rarefaction: for none can raiſe the mercury to that height at which it ſtands in the Torricellian tube, well purged of air. Few pumps will bring it within $\frac{1}{100}$ of an inch. Hawkſbee's, fitted up according to his inſtructions, will ſeldom bring it within $\frac{1}{10}$. Pumps with cocks, when conſtructed according to the principles of the exhauſting ſyringe, (*Sect.* I.) and new and in fine order, will in favourable circumſtances bring it within $\frac{1}{200}$. None with valves fitted up with wet leather, or when water or volatile fluids are allowed acceſs into any part, will bring it nearer than $\frac{1}{4}$. Nay, a pump of the beſt kind, and in the fineſt order, will have its rarefying power reduced to the loweſt ſtandard, as meaſured by this gage, if we put into the receiver the tenth part of a ſquare inch of white ſheep-ſkin, freſh from the ſhops, or of any ſubſtance equally damp. This is a diſcovery made by means of the improved air-pump, and leads to very extenſive and important conſequences in general phyſics,

It would require a volume to deſcribe all the changes which have been made on it. But our preſent purpoſe is to conſider it merely as a machine for rarefying elaſtic or expanſive fluids. All who uſed it perceived the limit ſet to the rarefaction by the reſiſtance of the valves, and tried to perfect the conſtruction of the cocks. The Abbé Nollet and Graveſande, two of the moſt eminent experimental philoſophers in Europe, were the moſt ſucceſsful.

Mr Graveſande juſtly preferred Hooke's plan of a double pump, and contrived an apparatus for turning the cocks by the motion of the pump's handle. This is far from either being ſimple or eaſy in working; and occaſions great jerks and concuſſions in the whole machine. His piſton has no valve, and it has ſeveral other deficiencies, which render a particular deſcription unneceſſary. Yet its performance is highly extolled by him, as far exceeding his former pumps with valves. The ſame preference was given to it by his ſucceſſor Muſchenbroek. But, while they both prepared the piſtons and valves and leathers of the pump, by ſteeping them in oil, and then in a mixture of water and ſpirit of wine, no juſt eſtimate could be made of its performance. For with this preparation it could not bring the gage within $\frac{1}{7}$ of an inch of the barometer; from its conſtruction, a very conſiderable ſpace is left between the piſton and cock, not leſs than an inch, from which the air is never expelled; it ſoon loſt any advantages it poſſeſſed when freſh from the workman's hands, by the cock growing looſe and admitting air. It is ſurpriſing that Graveſande omitted Hawkſbee's ſecurity againſt this, by placing the barrels in a diſh filled with oil: which would effectually have prevented this inconvenience.

We muſt not omit a ſeemingly paradoxical obſervation of Graveſande, that in a pump conſtructed with valves, and worked with a determined uniform velocity, the required degree of rarefaction is ſooner produced by ſhort barrels than by long ones. This will eaſily be ſeen by an exam-

ple.

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Fig. 15.

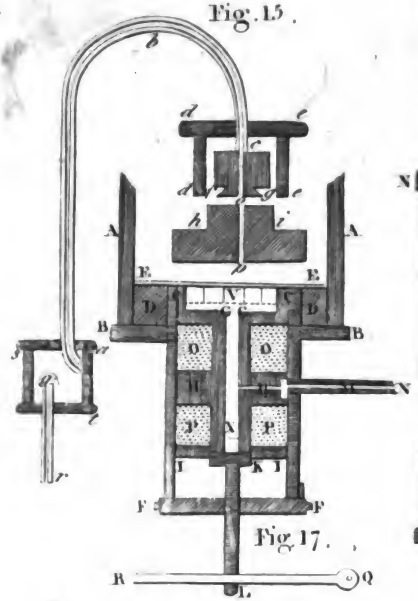

Fig. 17.

Fig. 13.

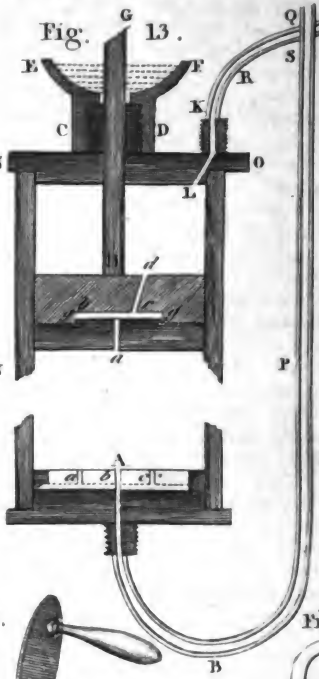

Fig. 43.

Fig. 61.

Fig. 18.

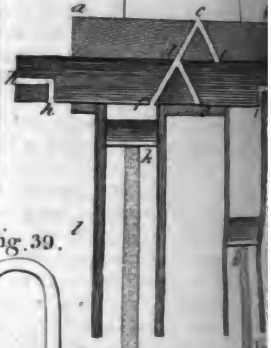

Fig. 19. Cuthbertson's Air Pump.

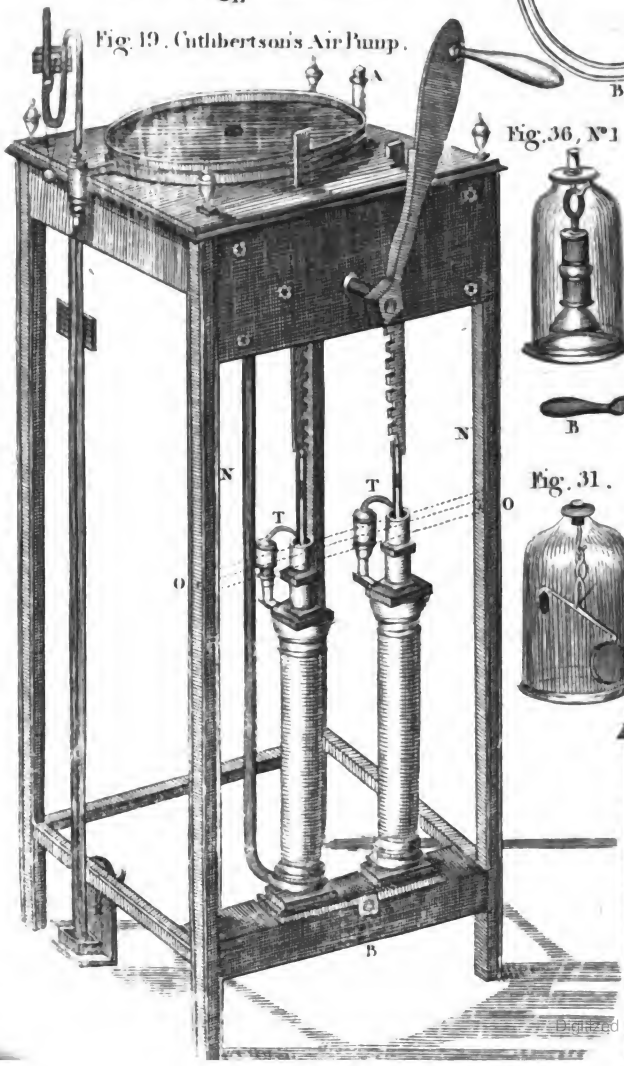

Fig. 39.

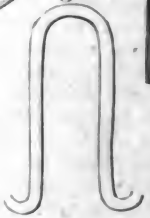

Fig. 36, N°1.

Fig. 14.

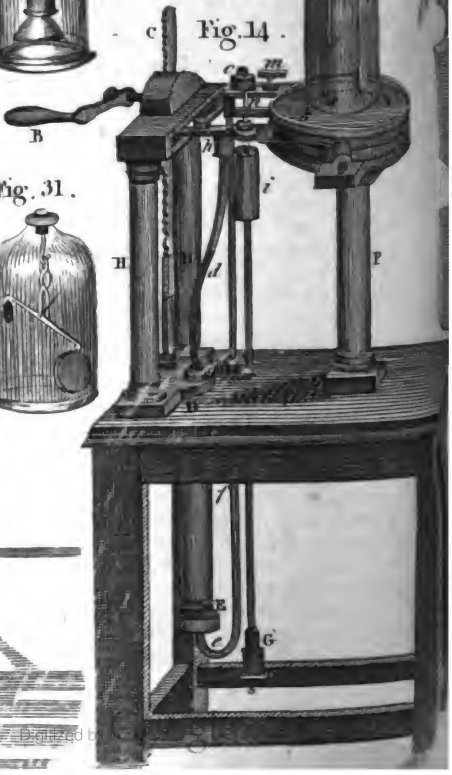

Fig. 31.

ple. Suppoſe the long barrel to have equal capacity with the receiver, then at the end of the firſt ſtroke the air in the receiver will have $\frac{1}{2}$ its natural denſity. Now, let the ſhort barrels have half this capacity: at the end of the firſt ſtroke the denſity of the air in the receiver is $\frac{2}{3}$, and at the end of the ſecond ſtroke it is $\frac{4}{9}$, which is leſs than $\frac{1}{2}$, and the two ſtrokes of the ſhort barrel are ſuppoſed to be made in the ſame time with one of the long-eſt, &c.

HAWKESBEE's pump maintained its pre-eminence without rival in Britain, and generally too on the continent, except in France, where every thing took the *ton* of the Academy, till about 1750, when it engaged the attention of Mr John Smeaton, a perſon of uncommon knowledge, and ſecond to none but Dr Hooke in mechanical reſource. He was then a maker of philoſophical inſtruments, and made many attemps to perfect the pumps with cocks, but found, that whatever perfection he could bring them to, he could not enable them to preſerve it; and he never would ſell one of this conſtruction. He therefore attached himſelf ſolely to the *valve pumps*. The firſt thing was to diminiſh the reſiſtance to the entry of the air from the receiver into the barrels: this he rendered almoſt nothing, by enlarging the ſurface on which this feebly elaſtic air was to preſs. Inſtead of making theſe valves to open by its preſſure on a circle of $\frac{1}{10}$ of an inch in diameter, he made the valve-hole one inch in diameter, enlarging the ſurface 400 times; and, to prevent this piece of thin leather from being burſt by the great preſſure on it, when the piſton in its deſcent was approaching the bottom of the barrel, he ſupported it by a delicate but ſtrong grating, dividing the valve-hole like the ſection of a honey-comb, as repreſented in *fig.* 12; and the ribs of this grating are ſeen edgewiſe in *fig.* 13. *a*, *b*, *c*.

The valve was a piece of thin membrane or oiled ſilk, gently ſtrained over the mouth of the valve-hole, and tied on by a fine ſilk thread wound round it in the ſame manner that the narrow ſlips had been tied on formerly. This done, it cut with a pointed knife the leather round the edge, nearly four quadrantal arcs, leaving a ſmall tongue between each, as in *fig.* 12. The ſtrained valve immediately ſhrinks inwards, as repreſented by the ſhaded parts; and the ſtrain by which it is kept down is now greatly diminiſhed, taking place only at the corners. The gratings being reduced nearly to an edge (but not quite, leſt they ſhould cut), there is very little preſſure to produce adheſion by the clammy oil. Thus it appears, that a very ſmall elaſticity of the air in the receiver will be ſufficient to raiſe the valve; and Mr Smeaton found, that when it was not able to do this at firſt, when only about $\frac{1}{100}$ of the natural elaſticity, it would do it after keeping the piſton up 8 or 10 ſeconds, the air having been all the while undermining the valve, and gradually detaching it from the grating.

But he could not follow this method with the piſton valve. There was not room round the rod for ſuch an expanded valve; and it would have obliged him to have a great ſpace below the valve, from which he could not expel the air by the deſcent of the piſton. His ingenuity hit on a way of increaſing the expelling force through the common valve: he incloſed the rod of the piſton in a collar of leather *l*, through which it moved freely without allowing any air to get paſt its ſides. For greater ſecurity, the collar of leather was contained in a box terminating in a cup filled with oil. As this makes a material change in the principle of conſtruction of the air-pump (and indeed of pneumatic engines in general), and as it has been adopted in all the ſubſequent attempts to improve them, it merits a particular conſideration.

The piſton itſelf conſiſts of two pieces of braſs, faſtened by ſcrews from below. The uppermoſt, which is of one ſolid piece with the rod GH, (*fig.* 13.) is of a diameter ſomewhat leſs than the barrel; ſo that when they are ſcrewed together, a piece of leather ſoaked in a mixture of boiled oil and tallow, is put between them; and when the piſton is thruſt into the barrel from above, the leather comes up around the ſide of the piſton, and fills the barrel, making the piſton perfectly air-tight. The lower half of the piſton projects upwards into the upper, which has a hollow *g b c g* to receive it. There is a ſmall hole thro' the lower half at *a* to admit the air; and a hole *c d* in the upper half to let it through, and there is a ſlip of oiled ſilk ſtrained acroſs the hole *a* by way of valve, and there is room enough left at *b c* for this valve to riſe a little when preſſed from below. The rod GH paſſes through the piece of braſs which forms the top of the barrel ſo as to move freely, but without any ſenſible ſhake: this top is formed into a hollow box, conſiſting of two pieces ECDF and CNOD, which ſcrew together at CD. This box is filled with rings of oiled leather exactly fitted to its diameter, each having a hole in it for the rod to paſs through. When the piece ECDF is ſcrewed down, it compreſſes the leathers; ſqueezing them to the rod, ſo that no air can paſs between them; and, to ſecure us againſt all ingreſs of air, the upper part is formed into a cup EF, which is kept filled with oil. The top of the barrel is alſo pierced with a hole LK, which riſes above the flat ſurface NO, and has a ſlip of oiled ſilk tied over it to act as a valve; opening when preſſed from below, but ſhutting when preſſed from above.

The communication between the barrel and receiver is by the pipe ABPQ; and there goes from the hole K in the top of the barrel, a pipe KRST, which either communicates with the open air or with the receiver, by means of the cock at its extremity T. The conduit pipe ABPQ has alſo a cock at Q, by which it is made to communicate either with the receiver or with the open air. Theſe channels of communication are variouſly conducted and terminated, according to the views of the maker: the ſketch in this figure is ſufficient for explaining the principle, and is ſuited to the general form of the pump, as it has been frequently made by Nairne and other artiſts in London. Let us now ſuppoſe the piſton at the top of the barrel, and that it applies to it all over, and that the air in the barrel is very much rarefied: in the common pump the piſton valve is preſſed hard down by the atmoſphere, and conti-

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nues ſhut till the piſton gets far down, condenſes the air below it beyond its natural ſtate, and enables it to force up the valves. But here, as ſoon as the piſton quits the top of the barrel, it leaves a void behind it; for no air gets in round the piſton rod, and the valve at K is ſhut by the preſſure of the atmoſphere. There is nothing now to oppoſe the elaſticity of the air below but the ſtiffneſs of the valve *b c*; and thus the expelling (or rather the *liberating*) force is prodigiouſly increaſed.

The ſuperiority of this conſtruction will be beſt ſeen by an example. Suppoſe the ſtiffneſs of the valve equal to the weight of $\frac{1}{10}$ of an inch of mercury, when the barometer ſtands at 30 inches, and that the pump gage ſtands at 29·9; then, in an ordinary pump, the valve in the piſton will not riſe till the piſton has got within the 300th part of the bottom of the barrel, and it will leave the valve hole filled with air of the ordinary denſity. But in this pump the valve will riſe as ſoon as the piſton quits the top of the barrel; and when it is quite down, the valve hole *a* will contain only the 300th part of the air which it would have contained in a pump of the ordinary form. Suppoſe further, that the barrel is of equal capacity with the receiver, and that both pumps are ſo badly conſtructed, that the ſpace left below the piſton is the 300th part of the barrel. In the common pump the piſton valve will riſe no more, and the rarefaction can be carried no farther, however delicate the barrel valve may be; but in this pump the next ſtroke will raiſe the gage to 29·95, and the piſton valve will again riſe as ſoon as the piſton gets half way down the barrel. The limit to the rarefaction by this pump depends chiefly on the ſpace contained in the hole LK; and in the ſpace *b c d* of the piſton. When the piſton is brought up to the top, and applied cloſe to it, thoſe ſpaces remain filled with air of the ordinary denſity, which will expand as the piſton deſcends, and thus will retard the opening of the piſton valve. The rarefaction will ſtop when the elaſticity of this ſmall quantity of air, expanded ſo as to fill the whole barrel (by the deſcent of the piſton to the bottom,) is juſt equal to the force requiſite for opening the piſton valve.

Another advantage attending this conſtruction is, that in drawing up the piſton, we are not reſiſted by the whole preſſure of the air; becauſe the air is rarefied above this piſton as well as below it, and the piſton is in preciſely the ſame ſtate of preſſure as if connected with another piſton in a double pump. The reſiſtance to the aſcent of the piſton is the exceſs of the elaſticity of the air above it over the elaſticity of the air below: this, toward the end of the rarefaction, is very ſmall, while the piſton is near the bottom of the barrel, but gradually increaſes as the piſton riſes, and reduces the air above it into ſmaller dimenſions, and becomes equal to the preſſure of the atmoſphere, when the air above the piſton is of the common denſity. If we ſhould raiſe the piſton ſtill farther, we muſt condenſe the air above it: but Mr Smeaton has here made an iſſue for the air by a ſmall hole in the top of the barrel, covered with a delicate valve. This allows the air to eſcape, and ſhuts again as ſoon as the piſton begins to deſcend, leaving almoſt a perfect void behind it as before.

This pump may be changed in a moment from a rarefying to a condenſing engine, by ſimply turning the cocks at Q and T. While T communicates with the open air and Q with the receiver, it is a *rarefying* engine or air-pump: but when T communicates with the receiver, and Q with the open air, it is a *condenſing* engine.

Fig. 14. *Plate* 278. repreſents Mr Smeaton's air-pump as made by Nairne. Upon a ſolid base or table are ſet up 3 pillars F, H, H: the pillar F ſupports the pump-plate A; and the pillars H, H, ſupport the front or head, containing a braſs cog-wheel, which is turned by the handle B, and works in the rack C faſtened to the upper end of the piſton rod. The whole is ſtill farther made ſteady by two pieces of braſs *e b* and *o i*, which connect the pump-plate with the front, and have perforations communicating between the holes in the middle of the plate and the barrel. DE is the barrel of the pump, firmly fixed to the table by ſcrews through its upper board: *e f d c* is a ſlender braſs tube ſcrewed to the bottom of the barrel, and to the under hole of the horizontal canal *c b*. In this canal there is a cock which opens a communication between the barrel and the receiver, when the key is in the poſition repreſented here: but when the key is at right angles with this poſition, this communication is cut off. If that ſide of the key which is here drawn next to the pump-plate be turned outward, the external air is admitted into the receiver; but if turned inwards, the air is admitted into the barrel. *g h* is another ſlender braſs pipe, leading from the diſcharging valve at *g* to the horizontal canal *b k*, to the under ſide of which it is ſcrewed faſt. In this horizontal canal there is a cock *n* which opens a paſſage from the barrel to the receiver when the key is in the poſition here drawn; but opens a paſſage from the barrel to the external air when the key is turned outwards, and from the receiver to the external air when the key is turned inwards. This communication with the external air is not immediate, but through a ſort of box *i*; the uſe of this box is to receive the oil which is diſcharged through the top valve *g*. In order to keep the pump tight, and in working order, it is proper ſometimes to pour a table ſpoonful of olive oil into the hole *e* of the pump plate, and then to work the pump. The oil goes along the conduit *b c d f e*, gets into the barrel and through the piſton valve, when the piſton is preſſed to the bottom of the barrel, and is then drawn up, and forced through the diſcharging valve *g* along the pipe *g h*, the horizontal paſſage *h n*, and finally into the box *i*. The box has a ſmall hole in its ſide near the top, at which the air eſcapes.

From the upper ſide of the canal *c b* there riſes a ſlender pipe which bends outward and then turns downwards, and is joined to a ſmall box, which cannot be ſeen in this view. From the bottom of this box proceeds downwards the gage-pipe of glaſs, which enters the ciſtern of mercury G fixed below. On the upper ſide of the other canal at *o* is ſeen a ſmall ſtud, having a ſhort pipe of glaſs projecting horizontally from it, cloſe by and

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and parallel to the front piece of the pump, and reaching to the other canal. This pipe is close at the farther end, and has a small drop of mercury or oil in it at the end *o*. This serves as a gage in condensing, indicating the degree of condensation by the place of the drop: For this drop is forced along the pipe, condensing the air before it in the same degree that it is condensed in the barrel and receiver.

In constructing this pump, Mr Smeaton introduced a method of joining together the different pipes and other pieces, which has great advantages over the usual manner of screwing them together with leather between, and which is now much used in hydraulic and pneumatic engines. The manner in which the exhausting gage is joined to the horizontal duct *c b*, is this: The piece *b i p*, in *fig.* 15, is the same with the little cylinder observable on the upper side of the horizontal canal *c d*, in *fig.* 14. The upper part *b i* is formed into an outside screw, to fit the hollow screw of the piece *d e e d*. The top of this last piece has a hole in its middle, giving an easy passage to the bent tube *c b a*, so as to slip along it with freedom. To the end *c* of this bent tube is soldered a piece of brass *c f g*, perforated in continuation of the tube, and having its end ground flat on the top of the piece *b i p*, and also covered with a slip of thin leather strained across it and pierced with a hole in the middle. It is plain from this form, that if the surface *f g* be applied to the top of *b i*, and the cover *d e e d* be screwed down on it, it will draw or press them together, so that no air can escape by the joint, and this without turning the whole tube *e b a* round, as is necessary in the usual way. This method is now adopted for joining together the conducting pipes of the machines for extinguishing fires, an operation which was extremely troublesome before this improvement.

The conduit pipe *E e f c* (*fig.* 14.) is fastened to the bottom of the barrel, and the discharging pipe *g b* to its top, in the same manner. But to return to the gage, *fig.* 15; the bent pipe *c b a* enters the box *s t* near one side, and obliquely, and the gage pipe *q r* is inserted through its bottom towards the opposite side. The use of this box is to catch any drops of mercury which may sometimes be dashed up through the gage pipe by an accidental oscillation. This, by going through the passages of the pump, would corrode them, and would act particularly on the joints, which are generally soldered with tin. When this happens to an air-pump, it must be cleaned with the most scrupulous attention, otherwise it will be quickly destroyed.

It is reckoned a very fine pump of the ordinary construction which will rarefy 200 times, or raise the gage to 20·85, the barometer standing at 30. But Mr Smeaton's pump, even after long using, raised it to 29·95, which is equivalent to rarefying 600 times. When in fine order, he found no bounds to its rarefaction, frequently raising the gage as high as the barometer; and he thought its performance so perfect, that the barometer-gage was not sufficiently delicate for measuring the rarefaction. He therefore substituted the syphon gage already described, which he gives some reasons for preferring; but even this he found not sufficiently sensible.

He contrived another, which could be carried to any degree of sensibility. It consisted of a glass body A (*fig.* 16,) of a pear shape, and therefore called the *pear-gage*. This had a small projecting orifice at B, and at the other end a tube CD, whose capacity was the 100th part of the capacity of the whole vessel. This was suspended at the slip-wire of the receiver, and there was set below it a small cup with mercury. When the pump was worked, the air in the pear-gage was rarefied along with the rest. When the rarefaction was brought to the degree intended, the gage was let down till B reached the bottom of the mercury. The external air being now let in, the mercury was raised into the pear, and stood at some height E in the tube CD. The length of this tube being divided into 100 parts, and those numbered from D, it is evident that $\frac{DE}{DB}$ will express the degree of rarefaction which had been produced when the gage was immersed into the mercury: or if DC be one 100th of the whole capacity, and be divided into 100 parts by a scale annexed to it, each unit of the scale will be one 10,000th of the whole.

This ingenious contrivance has been the means of making some very curious and important discoveries, which engage the attention of philosophers. By this gage Mr Smeaton found, that his pump frequently rarefied 1000, 10,000, nay 100,000 times. But though he in every instance saw the great superiority of his pump above all others, he often found irregularities which he could not explain, and a want of correspondence between the pear and the barometer gages which puzzled him. The pear gage frequently indicated a prodigious rarefaction, when the barometer gage would not show more than 600. These phænomena excited the curiosity of philosophers, who were making much use of the air-pump in their researches, and were deeply interested in every thing connected with the powers of elastic fluids. Mr Nairne, a most accurate philosophical instrument-maker, made a variety of experiments to examine and compare Mr Smeaton's pump with those of the usual construction. This rigorous comparison discovered several circumstances in the constitution of the atmospheric air, and its relation to other bodies, which are of the utmost importance in the operations of nature. We shall mention such only as relate to the operation of the air-pump in extracting air from the receiver.

Mr NAIRNE discovered, that when a little water, or even a bit of paper damped with water, was exposed under the receiver of Mr Smeaton's air-pump, when in the most perfect condition, raising the mercury in the barometer-gage to 29·95 he could not make it rise above 29·8 if Fahrenheit's thermometer indicated the temperature 47°, nor above 29·7 if the thermometer stood at 55°; and that to bring the gage to this height and keep it there, the operation of the pump must be continued long after the water had disappeared or the paper become perfectly dry. He found that a drop of spirits, or paper moistened with spirits, could not in those circumstances allow the mercury in the gage to rise to near that height:

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and that similar effects followed from admitting any volatile body whatever into the receiver or any part of the apparatus. This showed him at once how improper the directions were which had been given by Gureicke, Boyle, Graveſande, and others, for fitting up the air-pump for experiment, by ſoaking the leather in water, covering the joints with water, or in ſhort, admitting water or any other volatile body near it.

He therefore took his pumps to pieces, cleared them of all moiſture by heat, and then leathered them anew with leather ſoaked in a mixture of olive oil and tallow, from which he had expelled all the water it uſually contains, by boiling it till the firſt frothing was over. When the pumps were fitted up in this manner, he uniformly found that Mr Smeaton's pump rarefied the gage to 29·95, and the beſt common pump to 29·87, the firſt of which he computed to indicate a rarefaction to 600, and the other to 250. But in this ſtate he again found that a piece of damp paper, leather, wood, &c. in the receiver, reduced the performance as before. The moſt remarkable phenomenon was, that when he uſed the pear-gage with the pump cleared from all moiſture, it indicated the ſame degree of rarefaction with the barometer-gage: but when he expoſed a bit of paper moiſtened with ſpirits, and thus reduced the rarefaction of the pump to what he called 50, the barometer-gage ſtanding at 29·4, the pear-gage indicated a rarefaction exceeding 100,000; in ſhort, it was not meaſurable; and this phenomenon was almoſt conſtant. Whenever he expoſed any ſubſtance ſuſceptible of evaporation, he found the rarefaction indicated by the barometer-gage greatly reduced, while that indicated by the pear-gage was prodigiouſly increaſed; and both theſe effects were more remarkable as the ſubject was of eaſier evaporation, or the temperament of the air of the chamber was warmer.

This uniform reſult ſuggeſted the true cauſe. Water boils at the temperature 212, that is, it is then converted into a vapour which is permanently elaſtic while of that temperature, and its elaſticity balances the preſſure of the atmoſphere. If this preſſure be diminiſhed by rarefying the air above it, a lower temperature will now allow it to be converted into elaſtic vapour, and keep it in that ſtate. Water will boil in the receiver of an air-pump at the temperament 96, or even under it. Philoſophers did not think of examining the ſtate of the vapour in temperatures lower than what produced ebullition. But it now appears, that in much lower heats than this the ſuperficial water is converted into elaſtic vapour, which continues to exhale from it as long as the water laſts; and, ſupplying the place of air in the receiver, exerts the ſame elaſticity, and hinders the mercury from riſing in the gage, in the ſame manner as ſo much air of equal elaſticity would have done.

When Mr Nairne was exhibiting theſe experiments to the Hon. Henry Cavendiſh in 1776, this gentleman informed him that it appeared from a ſeries of experiments made by his father Lord Charles Cavendiſh, that when water is of the temperature 72°, it is converted into vapour under any preſſure leſs than $\frac{1}{4}$ of an inch of mercury, and at 41° it becomes vapour when the preſſure is leſs than $\frac{1}{4}$ of an inch. Even mercury evaporates in this manner when all preſſure is removed. A dewy appearance is frequently obſerved covering the inſide of the tube of a barometer, where we uſually ſuppoſe a vacuum. This dew, when viewed through a microſcope, appears to be a ſet of detached globules of mercury, and upon inclining the tube ſo that the mercury may ſlide along it, theſe globules will be all ſticked up, and the tube become clear. The dew which lined it was the vapour of the mercury condenſed by the ſide of the tube; and it is never obſerved but when one ſide is expoſed to a ſtream of cold air.

As to the vapour in the air-pump receiver, as long as the water continues to yield it, we may continue to work the pump; and it will be continually abſtracted by the barrels, and diſcharged in the form of water, becauſe it collapſes as ſoon as expoſed to the external preſſure. All this while the gage will not indicate any more rarefaction, becauſe the thing immediately indicated by the barometer-gage is *diminiſhed elaſticity*, which does not happen here. When all the water which the temperature of the room can keep elaſtic has evaporated under a certain preſſure, ſuppoſe $\frac{1}{4}$ an inch of mercury, the gage ſtanding at 29·5, the vapour which now fills the receiver expands, and by its diminiſhed elaſticity the gage riſes, and now ſome more water which had been attached to bodies by chemical or corpuſcular attraction is detached, and a new ſupply continues to ſupport the gage at a greater height; and this goes on continually till *almoſt* all has been abſtracted: but there will remain ſome which no art can take away; for as it paſſes through the barrels, and gets between the piſton and the top, it ſucceſſively collapſes into water during the aſcent of the piſton, and again expands into vapour when we puſh the piſton down again. Whenever this happens that is an end of the rarefaction.

While this operation is going on, the air comes out along with the vapour; but we cannot ſay in what proportion. If it were always uniformly mixed with the vapour, it would diminiſh rapidly; but this does not appear to be the caſe. There is a certain period of rarefaction in which a tranſient cloudineſs is perceived in the receiver. This is watery vapour formed at that degree of rarefaction, mingled with, but not diſſolved in, or united with, the air, otherwiſe it would be tranſparent. A ſimilar cloud will appear if damp air be admitted ſuddenly into an exhauſted receiver. The vapour, which formed an uniform tranſparent maſs with the air, is either ſuddenly expanded and thus detached from the other ingredient, or is ſuddenly let go by the air, which expands more than it does. Different compoſitions of air exhibit remarkable differences in this reſpect. But we ſee from this and other phenomena, that the air and vapour are not always intimately united; and therefore will not always be drawn out together by the air-pump. But let them be ever ſo confuſedly blended, the air muſt come out along with the vapour, and its quantity remaining in the receiver muſt be prodigiouſly diminiſhed by this ſuffici-

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ſociation, probably, much more than could be had the receiver only contained pure air.

As the air and vapour are continually drawn off from the receiver, the air in the pear gage expands and goes off with it. We ſhall ſuppoſe that the generated vapour hinders the gage from riſing beyond 29·5. During the continued working of the pump, the air in the pear, whoſe elaſticity is 0.5, ſlowly mixes with the vapour at the mouth of the pear, and the mixture even advances into its inſide, ſo that if the pumping be long enough continued, what is in the pear is nearly of the ſame compoſition with what is in the receiver, conſiſting perhaps of 20 parts of vapour and one part of air, all of the elaſticity of 0·5. When the pear is plunged into the mercury, and the external air allowed to get into the receiver, the mercury riſes in the pear-gage, and leaves not $\frac{1}{60}$, but $\frac{1}{60\times 20}$ or $\frac{1}{1200}$, of it filled with common air, the vapour having collapſed into an inviſible atom of water. Thus the pear-gage will indicate a rarefaction of 1200, while the barometer-gage only ſhowed 60, that is, ſhowed the elaſticity of the included ſubſtance diminiſhed 60 times. The concluſion to be drawn from theſe two meaſures (the one of the dilatation of air, and the other of the diminution of elaſticity) is, that the matter with which the receiver was filled, immediately before the readmiſſion of the air, conſiſted of one part or inconden-ſible air, and $\frac{1200}{60}$, or 20 parts of watery vapour.

The only obſcure part of this account is what relates to the compoſition of the matter which filled the pear-gage, before the admiſſion of the mercury. It is not eaſy to ſee how the vapour of the receiver comes in by a narrow mouth while the air is coming out by the ſame paſſage. Accordingly it requires a *very long time* to produce this extreme rarefaction in the pear-gage; and there are great irregularities in any two ſucceeding experiments, as may be ſeen by looking at Mr Cirne's account of them in *Philoſ. Tranſ.* Vol. XVII. Some vapours appear to have mixed much more readily with the air than others; and there are ſome unaccountable caſes where vitriolic acid and ſulphureous bodies were included, in which the diminution of denſity indicated by the air-gage was uniformly leſs than the diminution of elaſticity indicated by the barometer-gage. It is enough for us to have eſtabliſhed, by unqueſtionable facts, this production of elaſtic vapour, and the neceſſity of attending to it, both in the conſtruction of the air-pump and in drawing reſults from experiments exhibited in it.

Mr Smeaton's pump, when in good order, and perfectly free from all moiſture, will in dry weather rarefy air about 600 times, raiſing the barometer-gage to within $\frac{1}{10}$ of an inch of a fine barometer. This was a performance ſo much ſuperior to that of all others, and by means of Mr Cirne's experiments opened ſo new a field of obſervation, that the air-pump once more became a capital inſtrument among the experimental philoſophers. The cauſes of its ſuperiority were alſo ſo diſtinct, that artiſts were immediately excited to a farther improvement of the machine; ſo that this becomes a new epoch in its hiſtory.

There is, however, one imperfection which Mr Smeaton has not attempted to remove. The diſcharging valve is ſtill obliged to open againſt the preſſure of the atmoſphere. Mr Smeaton, in his ingenious conſtruction, has greatly diminiſhed, but has not annihilated, the obſtructions to the paſſage of the air from the receiver into the barrel. His ſucceſs encouraged farther attempts. One the firſt and moſt ingenious was that of Prof. Ruſſel of the univerſity of Edinburgh, who about 1770 conſtructed a pump in which both cocks and valves were avoided. But the death of the ingenious author put a ſtop to the improvements by which he expected to have brought it to perfection; and we have heard of none who has ſince attempted to complete it.

In the 73d volume of the *Philoſ. Tranſ.* Mr TIBERIUS CAVALLO has given the deſcription of an air-pump contrived and executed by Meſſrs. Haas and Hurter, inſtrument-makers in London, where theſe artiſts have revived Guericke's method of opening the barrel-valve during the laſt ſtrokes of the pump by a force acting from without. We ſhall only inſert ſo much of this deſcription as relates to this diſtinguiſhing circumſtance: *Fig.* 29 repreſents a ſection of the bottom of the barrel, where AA is the barrel and BB the bottom, which has in its middle a hollow cylinder CCFF, projecting about half an inch into the barrel at CC, and extending a good way downwards to FF. The ſpace between this projection and the ſides of the barrel is filled up by a braſs ring DD, over the top of which is ſtrained a piece of oiled ſilk EE, which performs the office of a valve, covering the hole CC. But this hole is filled up by a piece of braſs, or rather an aſſemblage of pieces ſcrewed together GGHHHH. It conſiſts of three projecting fillets or ſhoulders GG, HH, H, which form two hollows between them, and which are filled with rings of oiled leather OO, PP, firmly ſcrewed together. The extreme fillets GG, H, are of equal diameter with the inſide of the cylinder, ſo as to fill it exactly, and the whole ſtuffed with oiled leather, ſlide up and down without allowing any air to paſs. The middle fillet HH is not ſo broad, but thicker. In the upper fillet GG there is formed a ſhallow diſh about $\frac{1}{10}$ of an inch deep and $\frac{1}{4}$ wide. This diſh is covered with a thin plate, pierced with a grating like Mr Smeaton's valve-plate. There is a perforation VX along the axis of this piece, which has a paſſage out at one ſide H, through the middle fillet. Oppoſite to this paſſage, and in the ſide of the cylinder CCFF, is a hole M, communicating with the conduit pipe MN, which leads to the receiver. Into the lower end of the perforation is ſcrewed the pin KL, whoſe tail L paſſes through the cap EE. The tail L is connected with a lever RQ, moveable round the joint Q. This lever is puſhed upwards by a ſpring, and thus the whole piece is kept in contact with the ſlip of oiled ſilk or valve EE.

Now ſuppoſe a void formed in the barrel by drawing up the piſton; the elaſticity of the air in the receiver, in the pipe NM, and in the paſſage XV, will preſs on the great ſurface of the valve expoſed through the grating, will raiſe it, and the pump

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pump will perform precisely as Mr Smeaton's does. But suppose the rarefaction to have been so long continued, that the air is no longer able to raise the valve; this will be seen by the mercury rising no more in the pump-gage. When this is perceived, the operator must press with his foot on the end R of the lever RQ. This draws down the pin KL, and with it the whole hollow plug with its grated top. And thus, instead of raising the valve from its plate, the plate is here drawn down from the valve. The air now gets in without obstruction, and the rarefaction proceeds as long as the piston rises. When it is at the top of the barrel, the operator takes his foot from the lever, and the spring presses up the plug again and shuts the valve. The piston rod passes through a collar of leather, as in Mr Smeaton's pump, and the air is finally discharged through an outward valve in the top of the barrel. This is an ingenious contrivance, similar to what was adapted by GUERICKE himself; and we have no doubt of these pumps performing extremely well if carefully made; and it seems not difficult to keep the plug perfectly air-tight by supplying plenty of oil to the leathers. Mr Cavallo, in the *Philos. Trans.* 1783, says, that when it had been long used it had, in some experiments, rarefied 600 times.

Aiming still at the removing the obstructions to the entry of the air from the receiver into the barrels, Mr Prince, an American, has constructed a pump in which there is no valve or cock whatever between them. In this pump the piston rod passes through a collar of leathers, and the air is finally discharged through a valve, as in the two last. But great inconveniences were experienced from the oscillations of the mercury in the gage. As soon as the piston comes into the cistern, the air from the receiver immediately rushes into the barrel, and the mercury shoot up in the gage, and gets into a state of oscillation. The subsequent rise of the piston will frequently keep time with the 2d oscillation, and increase it. The descent of the piston produces a downward oscillation, by allowing the air below it to collapse; and, by improperly timing the strokes, this oscillation becomes so great as to make the mercury enter the pump. To prevent this, and a greater irregularity of working as a condenser, valves were put in the piston: but as these require force to open them, the addition seemed rather to increase the evil, by rendering the oscillations more simultaneous with the ordinary rate of working. Besides all this it appears, likewise of very difficult execution. It has many long, slender, and crooked passages, which must be drilled through broad plates of brass, some of them appearing scarcely practicable: so that it appears rather a suggestion of theory than a thing warranted by its actual performance.

Mr LAVOISIER and the naturalists, who were occupied with him in the investigation of the different species of gas disengaged from bodies in chemical operations, contrived an air-pump which has great appearence of simplicity, and, being very different from all others, merits a description. It consists of two barrels *l*, *m*, *fig.* 18. with solid pistons *k k*. The pump plate *a b* is pierced at its centre *c* with a hole which branches towards each of the barrels, as represented by *c d*, *c e*. Between the plate and the barrels slides another plate *e*, pierced in the middle with a branched hole *f g*, and near the ends with two holes *h h*, *i i*, which from its under side to the ends. The holes in the two plates are so adjusted, that when the part *h i* is drawn so far towards *b* that the hole *i* comes within the barrel *m*, the branch *d f* of the hole in the middle plate coincides with the branch *e g* of the upper plate, and the holes *e*, *g* are shut. Thus a communication is established between the barrel *l* and the receiver on the pump-plate, and between the barrel *m* and the external air. In this state the barrel *l* will exhaust, and *m* will discharge. When the piston of *l* is at its mouth, and that of *m* touches its bottom, the sliding plate is pushed over to the other side, so that *m* communicates with the receiver through the passage *g*, and *l* communicates with the air by the passage *e*. This sliding plate performs the office of a cock in a very beautiful and simple manner, and if the pistons apply close to the ends of the barrels, so as to expel the whole air, the pump will be perfect. It works, indeed, against the whole pressure of the external air. But this may be avoided by putting valves on the holes *h*, *i*; and these can do no harm, because the air remaining in them never gets back into the barrel till the piston be at the bottom, and the exhaustion of that stroke completed. But the best workmen of London think it would be incomparably more difficult to execute this cock (for it is a cock of unusual form), in such a manner that it shall be air tight and yet move with tolerable ease, and that it is much more liable to wearing loose than common cocks. It must however be acknowledged to be ingenious, and it may suggest to an intelligent artist a method of contriving common conical cocks upon one axis so as to answer the same purposes much more effectually.

The last improvement which we shall describe is that published by Mr Cuthbertson, philosophical instrument-maker in Amsterdam. His pump has given such evidences of its perfection, that we can hardly expect or wish for any thing more complete. But the same construction was invented, and in part, executed, before the end of 1779, by Dr DANIEL RUTHERFORD, professor of botany in the university of Edinburgh, who was then employed in experiments on the production of air during the combustion of bodies in contact with nitrous air, and who was vastly desirous of procuring a more complete abstraction of pure aerial matter than could be effected by Mr Smeaton's pump. The Doctor's dissertation on this subject, was read at this period in the Philosophical Society of Edinburgh. In it the Doctor appeared fully apprised of the existence of pure vital air in the nitrous acid as the chief ingredient, and as the cause of its most remarkable phenomena, and to want but a few of the discoveries which have eternized the name of LAVOISIER. He was particularly anxious to obtain *apart* this distinguishing ingredient in its pure composition, and, for this purpose, to abstract completely from the vessel in which he subjected it to examination, every particle of elastic matter. For Robison proposed to him to cover the bottom of Mr Smeaton's piston with some clammy matter which should take hold of the bottom valve, and

part it when the piston was drawn up. A few days after, Dr Rutherford showed him a drawing of a pump, having a conical metal valve in the bottom, furnished with a long slender wire, sliding in the inside of the piston-rod with a gentle friction, sufficient for lifting the valve, and secured against all chance of failure by a spring a-top, which took hold of a notch in the inside of the piston-rod about a quarter of an inch from the lower end, so as certainly to lift the valve during the last quarter of an inch of the piston's motion. Being an excellent mechanic, he had executed a valve on this principle, and was fully satisfied with its performance. But having already confirmed his doctrines respecting the nitrous acid by incontrovertible experiments, his wishes to improve the air-pump lost their incitement, and he thought no more of it; and not long after this, the ardour of the philosophers of the Teylerian Society at Haerlem and Amsterdam excited the efforts of Mr Cuthbertson, their instrument-maker, to the same purpose, and produced the most perfect air-pump that has yet appeared. The following description of it, and its performance is given in the inventor's own words:

SECT. III. *Of* MR CUTHBERTSON'S AIR-PUMP.

FIG. 19, *plate* CCLXXIX, gives a perspective view of this pump, with its two principal gages screwed into their places. These need not be used together, except in cases where the utmost exactness is required. In common experiments one of them is removed, and a stop-screw put in its place. When the pear gage is used, a small round plate, in which the receiver may stand, must be first screwed into the hole at A; but this hole is stopped on other occasions with a screw. When all the three gages are used, and the receiver is exhausted, the stop-screw B, at the bottom of the pump, must be unscrewed, to admit the air into the receiver; but when they are not all used, either of the other stop-screws will answer this purpose. *Fig.* 20 represents a cross-bar for preventing the barrels from being shaken by working the pump or by any accident. Its place in *fig.* 19 is represented by the dotted lines. It is confined in its place, and kept close down on the barrels by two slips of wood NN, which must be drawn out, as well as the screws OO, when the pump is to be taken asunder. The other figures exhibit a section of all the working parts of the pump, except the wheel and rack, in which there is nothing uncommon.

FIG. 21. is a section of one of the barrels, with all its internal parts; and *fig.* 22, 23, 24, and 25, are different parts of the piston, proportioned to the size of the barrel and to one another. The piston and barrel are 1·65 inches in diameter. In *fig.* 21. CD represents the barrel, F the collar of leathers, G a hollow cylindrical vessel to contain oil. R is also an oil-vessel to receive the oil which is drawn, along with the air, through the hole *a a*, when the piston is drawn upwards; and, when this is full, the oil is carried over with the air, along the tube S, into the oil-vessel G. *e e* is a wire which is driven upwards from the hole *a a* by the passage of the air; and as soon as this has escaped, it falls down again by its own weight, shuts up the hole, and prevents all return of the air into the barrel. At *d d* are fixed two pieces of brass, to keep the wire *e e* in a vertical direction, that it may accurately shut the hole. H is a cylindrical wire or rod which carries the piston I, and is made hollow to receive a long wire *g g*, which opens and shuts the hole L; and on the other end of the wire O is screwed a nut, which, by stopping in the narrowest part of the hole, prevents the wire from being driven up too far. This wire and screw are more clearly seen in *fig.* 22 and 26; they slide in a collar of leather *r r*, *fig.* 22 and 25 in the middle piece of the piston. *Fig.* 24 and 25 are the two mean parts which compose the piston, and, when the pieces 3 and 6 are added to it, the whole is represented by *fig.* 22. *Fig.* 25 is a piece of brass of a conical form, with a shoulder at the bottom. A long hollow screw is cut in it, about ⅓ of its length, and the remainder of the hole, in which there is no screw, is of about the same diameter with the screwed part, except a thin plate at the end, which is of a width exactly equal to the thickness of *g g*. That part of the inside of the conical brass in which no thread is cut, is filled with oiled leathers with holes through which *g g* can slide stiffly. There is also a male screw with a hole in it, fitted to *g g* serving to compress the leathers *r r*. In *fig.* 24. *a a a a* is the outside of the piston, the inside of which is turned so as exactly to fit the outside of *fig.* 25. *b b* are round leathers about 60 in number; *c c* is a circular piece of brass of the size of the leathers, and *d d* is a screw serving to compress them. The screw at the end of *fig.* 23. is made to fit the screw in *fig.* 25. Now if *fig.* 26 be pushed into *fig.* 25, this into *fig.* 24, and *fig.* 23, be screwed into the end of *fig* 25, these will compose the whole of the piston, as represented in *fig.* 22. H in *fig.* 21 represents the same part as H in *fig.* 22, and is that to which the rack is fixed. If, therefore, this be drawn upwards, it will cause *fig.* 25 to shut close into *fig.* 24, and drive out the air above it; and when it is pushed downward, it will open as far as the shoulder *a a* will permit, and suffer air to pass through. A A *fig.* 27, is the receiver plate, BB is a long square piece of brass, screwed into the under side of the plate, through which a hole is drilled corresponding to that in the centre of the receiver-plates and with three female screws *b*, *b*, *c*.

The RAREFACTION of the AIR in the receiver is effected thus:—Suppose the piston at the bottom of the barrel. The inside of the barrel, from the top of the piston to *a*, *fig.* 21, contains common air. When the rod is drawn up, the upper part of the piston sticks fast in the barrel till the conical part connected with the rod shuts the conical hole, and its shoulder applies close to its bottom. The piston is now shut, and therefore the *whole* is drawn up by the rack-work, driving the air before it through the hole *a a*, into the oil-vessel at R, and out into the room by the tube T. The piston will then be at the top of the barrel at *a*, and the wire *g g* will stand nearly as represented in the figure just raised from the hole L, and prevented from rising higher by the nut O. During this motion the air will expand in the receiver, and come along the bent tube *m* into the barrel. Thus the barrel will be filled with air, which, as the piston

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ton rises, will be rarefied in proportion as the capacity of the receiver, pipes, and barrel is to the barrel alone. When the piston is moved down again by the rack-work, it will force the conical part, *fig* 25, out of the hollow part *fig.* 24 as far as the shoulders *a a*; *fig.* 22 will rest on *a a fig.* 24, which will then be so far open as to permit the air to pass freely through it, while at the same time the end of *g g* is forced against the top of the hole, and shuts it, in order to prevent any air from returning into the receiver. Thus the piston, moving downwards, suffers the air to pass out between the sides of *fig.* 24 and 25; and, when it is at the bottom of the barrel, will have the column of air above it; and, consequently, when drawn upwards it will shut, and drive out this air, and, by opening the hole L at the same time, will give a free passage to more air from the receiver. This process being continued, the air of the receiver will be rarefied *as far as its expansive power will permit.* For in this machine there are no valves to be forced open by the elasticity of the air in the receiver, which at last it is unable to effect. There is therefore nothing to prevent the air from expanding to its utmost degree.

As the air must escape thro' the discharging passage *ac*, *fig* 21, against the pressure of a column of oil and the weight of the wire, it may be supposed, that there will remain in this passage a quantity of air of considerable density, which will expand again into the barrel during the descent of the piston, and thus put a stop to the progress of rarefaction. This is the case in Mr Smeaton's pump, and all which have valves in the piston. But it is the peculiar excellency of this pump, that whatever be the density of the air remaining in *a c*, the rarefaction will still go on. In proof of this, suppose that the air contained in *a c*, is $\frac{1}{100}$ part of the common air which would fill the barrel, and that the capacity of the barrel is equal to that of the receiver and passages, and that the air in the receiver and barrel is of the same density, the piston being at the bottom of the barrel: The barrel will therefore contain $\frac{100}{101}$ parts of its natural quantity, and the receiver $\frac{100}{101}$. Now let the piston be drawn up. No air will be discharged at *a c*, because it will contain the whole air which was in the barrel, and which has now collapsed into its ordinary bulk. But this does not in the least hinder the air of the receiver from expanding into the barrel, and diffusing itself equally between both. Each will now contain $\frac{100}{201}$ of their ordinary quantity when the piston is at the top, and *a c* will contain $\frac{1}{201}$ as before, or $\frac{100}{201}$. Now push down the piston. The hole L is instantly shut, and the air in *a c*, expands into the barrel, and the barrel now contains $\frac{1}{201}$. When the piston has reached the bottom, let it be again drawn up. There will be $\frac{1}{201}$ discharged through *c*, and the air in the receiver will again be equally distributed between it and the barrel. Therefore the receiver will now contain $\frac{2\frac{1}{2}}{1000}$. When the piston reaches the bottom, there will be $\frac{12\frac{1}{2}}{1000}$ in the barrel. When again drawn up to the top, there will be $\frac{2\frac{1}{2}}{1000}$ discharged, and the receiver will contain $\frac{1\frac{1}{2}}{1000}$; and when the piston reaches the bottom, there will be $\frac{11\frac{1}{2}}{1000}$. At the next stroke the receiver will contain only $\frac{0'5}{1000}$ &c. &c.

Thus it appears, that notwithstanding the $\frac{1}{200}$ which always expands back again out of the hole *a c* into the barrel, the rarity of the air in the receiver will be doubled at every stroke. There is therefore no need of a subsidiary air-pump at *c*, as in the American air-pump, and in the Swedish attempt to improve Smeaton's."

In using this air-pump no particular directions are necessary, nor is any peculiar care necessary for keeping it in order, except that the oil-vessel A be always kept about half full of oil. When the pump has stood long without being used, it will be proper to draw a table-spoonful of olive oil through it, by pouring it into the hole in the middle of the receiver-plate, when the piston is at the bottom of the barrel. Then by working the piston, the oil will be drawn through all the parts of the pump, and the surplus will be driven through the tube T into the oil-vessel G. Near the top of the piston-rod at H there is a hole which lets some oil into the inside of the rod, which gets at the collar of leathers *r r*, and keeps the wire *g g* air-tight.

When the pump is used for condensation at the same time that it rarefies, or separately, the piece containing the bent tube T must be removed, and fig 28. put in its place, and fixed by its screw. Fig. 28. as drawn in the plate, is intended for a double barrelled pump. But for a single barrel only one piece is used, represented by *b a a*, the double piece being cut off at the dotted line *a a*. In this piece is a female screw to receive the end of a long brass tube, to which a bladder or sufficient for the experiment of condensation, or a glass, properly secured for this purpose, must be screwed. Then the air which is abstracted from the receiver on the pump-plate will be forced into the bladder or glass. But if the pump be double, the apparatus fig. 8. is used, and the long brass tube screwed on at *c*. Fig. 29. and 30 represent the two gages, which will be sufficiently explained afterwards. Fig. 29. is screwed into *a b* fig. 27. into the screw at the other end of *c* fig. 27. and fig. 30. into the screw *a b* fig. 27. If it be used in a single pump, either to rarefy or condense, the screw K, which fastens the rack to the piston-rod H, must be taken out. Then turning the wheel till H is depressed as low as possible, the machine will be fitted to exhaust as a single pump; and if it be required to condense, the direction in paragraph 7th Sect I, must be observed with regard to the tube T, and fig. 28.

"I took (says Mr Cuthbertson) two barometer tubes of an equal bore with that fixed to the pump. These were filled with mercury four times boiled. They were then compared, and stood exactly at the same height. The mercury in one of them was boiled in it four times more, without making any change in their height; they were therefore judged very perfect. One of these was immersed

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immerſed in the ciſtern of the pump-gage, and faſtened in a poſition parallel to it, and a ſliding ſcale of one inch was attached to it. This ſcale, when the gage is uſed, muſt have its upper edge ſet equal with the ſurface of the mercury in the boiled tube after exhauſtion, and the difference between the height of the mercury in this and in the other barometer tube may be obſerved to the one hundredth of an inch; and being cloſe together, no error ariſes from their not being exactly vertical, if they are only parallel. (See *fig.* 30. *Pl.* 28.) I uſed a 2d gage, which I ſhall call a double ſyphon. (See *fig.* 29. *b.*) This was alſo prepared with the utmoſt care. I had a ſcale for meaſuring the difference between the height of the columns in the two legs. It was an inch long, and divided as the former, and kept in a truly vertical poſition by ſuſpending it from a point with a weight hung to it, as repreſented in the figure. Upon comparing theſe two gages, I always found them to indicate the ſame degree of rarefaction. I alſo uſed a pear gage, (*fig.* 16) though the moſt imperfect of all, to repeat the curious experiments of Mr Nairne and others."

When experiments require the utmoſt rarefying power of the pump, the receiver muſt not be placed on leather, either oiled or ſoaked in water, as is uſually done. The pump-plate and the edge of the receiver muſt be ground very flat and true, and this with very fine emery, that no roughneſs may remain. The plate of the pump muſt then be wiped very clean and very dry, and the receiver rubbed with a warm cloth till it become electrical. The receiver being now ſet on the plate, hog's lard, either alone or mixed with a little oil, which has been cleared of water by boiling, muſt be ſmeared round its outſide edge. In this condition the pump will rarefy its utmoſt, and what ſtill remains in the receiver will be permanent air. Or a little of this compoſition may be thinly ſmeared on the pump-plate; this will prevent all riſk of ſcratching it with the edge of the receiver. Leather of very uniform thickneſs, long dried before a fire, and well ſoaked in this compoſition, which muſt be cleared of all water by the firſt boiling, will anſwer very well, and is expeditious, when receivers are to be frequently ſhifted. Other leathers ſhould be at hand, ſoaked in a compoſition containing a little reſin. This gives it a clammineſs which renders it impermeable to air, and is very proper at all joints of the pump, and all apparatus for pneumatic experiments. As it is impoſſible to render the pear-gage as dry as other parts of the apparatus, there will be generally ſome variation between this and the other gages.

When it is only intended to ſhow the utmoſt power of the pump, without aſcertaining the quality of the reſiduum, the receiver may be ſet on wet leather. If, in this condition, the air be rarefied as far as poſſible, the ſyphon and barometer-gage will indicate a leſs degree of rarefaction than in the former experiments. But when the air is ſet in again, the pear-gage will point out a rarefaction ſome thouſands of times greater than it did before. If the true quality of permanent air after exhauſtion be required, the pear-gage will be neareſt the truth: for when the air is rarefied to a certain degree, the moiſtened leather emits an expanſible fluid, which, filling the receiver, forces out the permanent air; and the two firſt gages indicate a degree of exhauſtion which relates to the whole elaſtic matter remaining in the receiver, *viz.* to the expanſible fluid together with the permanent air; whereas the pear-gage points out the degree of exhauſtion, with relation to the permanent air alone, which remains in the receiver; for by the preſſure of the air admitted into the receiver, the elaſtic vapour is reduced to its former bulk, which is imperceptible.

Many bodies emit this elaſtic fluid when the preſſure of the air is much diminiſhed; a piece of leather, in its ordinary damp ſtate, about an inch ſquare, or a bit of green or dry wood, will ſupply this for a great while. When ſuch fluids have been generated in any experiments, the pump muſt be carefully cleared of them, for they remain not only in the receiver, but in the barrels and paſſages, and will again expand when the exhauſtion has been carried far. The beſt method of clearing the pump is to take a very large receiver, and, to uſe every precaution to exhauſt it as far as poſſible. Then the expanſible matter lurking in the barrels and paſſes will be diffuſed through the receiver alſo, or will be carried off along with its air. It will be as much rarer than it was before, as the aggregate capacity of the receiver barrels and paſſes is larger than that of the two laſt.

The performance of the pump may be eſtimated by the 4 following experiments. The two gages being ſcrewed into their places, and the hole in the receiver-plate ſhut up, the pump was made to exhauſt as far as it could. The mercury in the legs of the ſyphon was only one 40th of an inch out of the level, and that in the boiled barometer-tube one 40th of an inch higher than in the one ſcrewed to the pump. A ſtandard barometer then ſtood at 30 inches, and therefore the pump rarefied the permanent air 1200 times. This is twice as much as Mr Nairne found Mr Smeaton's do in its beſt ſtate. Mr Cavallo ſeems diſpoſed to give a favourable account of Haas and Hurter's pump, and it appears never to have exceeded 600 times. Mr Cuthbertſon has often found the mercury within one 120th of an inch of the level in the ſyphon-gage, indicating a rarefaction of 3000.

To one end of a glaſs tube, 2 inches diameter and 30 inches long, was fitted a braſs cap and collar of leather, through which a wire was inſerted, reaching about two inches within the tube. This was connected with the conductor of an electric machine. The other end was ground flat and ſet on the pump plate. When the gages indicated a rarefaction of 300, the light became ſteady and uniform, of a pale colour, though a little tinged with purple; at 600 the light was of a pale chalky white; at 1200 it diſappeared in the middle of the tube, and the tube conducted ſo well that the prime conductor only gave ſparks ſo faint and ſhort as to be ſcarcely perceptible. After taking off the tube, and making it as dry as poſſible, it was again connected with the conductor, which was giving ſparks two inches long. When the air in it was rarefied 600 times, the ſparks were of the ſame length. Sometimes a pencil of light darted along the tube. When the rarefaction was 20, the ſpark did not exceed an inch, and light ſtreamed the whole length of the

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tube. When the rarefaction was 30, the ſparks were half an inch, and the light ruſhed along the tube in great ſtreams. When the rarefaction was 100, the ſparks were about ¼ long, and the light filled the tube in an uninterrupted body. When 300, the appearances were as before. When 600, the ſparks were one 10th, and the light was of a faint white colour in the middle, but tinged with purple toward the ends. When 1200, the light was hardly perceptible in the middle, and was much fainter at the ends than before, but ſtill ruddy. When 1400, which was the moſt the pump could produce, ſix inches of the middle of the tube were quite dark, and the ends free of any tinge of red, and the ſparks did not exceed one 40th of an inch.

Although this noble inſtrument originated in Germany, all its improvements were made in this kingdom. Both the mechanical and pneumatical principles of Mr Boyle's pump were extremely different from the German, and in reſpect of expedition and conveniency, much ſuperior. The double barrel and gage by Hawkesbee were capital improvements, and on principle; and Mr Smeaton's method of making the piſton work in rarefied air, made a complete change in the whole proceſs.

By this machine, we can make experiments eſtabliſhing and illuſtrating the gravity and elaſticity of the air in a much more perſpicuous manner, than could be done by the ſpontaneous phenomena of nature. It enables us in the firſt place to ſhow the materiality of air in a very diſtinct manner. Bodies cannot move about in the atmoſphere without diſplacing it. This requires force; and the reſiſtance of the air always diminiſhes the velocity of bodies moving in it. A heavy body therefore has the velocity of its fall diminiſhed; and if the quantity of air diſplaced be very great, the diminution will be very conſiderable. This is the reaſon why light bodies, ſuch as feathers, fall very ſlowly. Their moving force is very ſmall, and can therefore diſplace a great quantity of air only with a very ſmall velocity. But if the ſame body be dropped *in vacuo*, when there is no air to be diſplaced, it falls with the whole velocity competent to its gravity. A guinea and a downy feather, dropped at the ſame inſtant, by opening the forceps which holds them by means of the ſlip-wire in the top of the receiver, will both reach the bottom at the ſame inſtant.

We can now abſtract the air almoſt completely from a dry veſſel, ſo as to know the preciſe weight of the air which filled it. The firſt experiment we have of this kind, done with accuracy, is that of Dr Hooke, Feb. 10, 1664, when he found 114 pints of air to weigh 945 grains. One pint of water was 8$\frac{1}{16}$ oz. This gives for the ſpecific gravity of air one 850th very nearly.

As we are thus immerſed in a gravitating fluid, it follows, that every body preponderates only with the exceſs of its own weight above that of the air which it diſplaces; for every body loſes by this immerſion the weight of the diſplaced air. A cubic foot loſes about 521 grains in frofty weather. We ſee balloons even riſe in the air, as a piece of cork riſes in water. A maſs of water which really contains 850 lb. will load the ſcale of a balance with 849 only, and will be balanced by about 849$\frac{1}{2}$ lb. of braſs. This is evinced by a very pretty experiment, repreſented in *fig.* 31. *Pl.* 279. A ſmall beam is ſuſpended within a receiver. To one end of the beam is appended a thin glaſs or copper ball, cloſe in every part. This is balanced by a ſmall piece of lead hung on the other arm. As the air is pumped out of the receiver, the ball will gradually preponderate, and will regain its equilibrium when the air is re-admitted.

Some philoſophers propoſe, and actually uſe, a large globe of light make, ſuſpended at a beam, for a barometer. If its capacity is a cubic foot, 1$\frac{1}{5}$ grains will indicate the ſame change that is indicated by one 10th of an inch of an ordinary barometer. But a veſſel of this ſize will load a balance too much to leave it ſufficiently ſenſible to ſmall changes of denſity. Beſides, it is affected by heat and cold, and would require a very troubleſome equation to correct their effects. It may be worth while to attend to this in buying and ſelling precious commodities; ſuch as pearls, diamonds, ſilk, and ſome drugs. As they are generally ſold by braſs or leaden weights, the buyer will have ſome advantage when the air is heavy and the barometer high. On the other hand, he will have the advantage in buying gold and mercury when the air is light. The meaſuring of time by pendulums is alſo dependent on this pneumatical principle. As the accelerating force on a pendulum is not its whole weight, but the exceſs of its weight over that of the diſplaced air, it follows that a pendulum will vibrate more ſlowly in the air than *in vacuo*. A pendulum compoſed of lead, iron, and braſs, may be about 8400 times heavier than the air which it diſplaces, when the barometer is at 30 inches and the thermometer at 32°, and the accelerating force will be diminiſhed about one 1680oth. This will cauſe a 2d pendulum to make about five vibrations leſs in a day than it would do *in vacuo*. Therefore to deduce the accelerative power of gravity from the length of a pendulum vibrating in the air, we muſt make an allowance of 0″·17, or ſeventeen 100ths of a ſecond, per day, for every inch that the barometer ſtands lower than 30 inches. But we muſt alſo note the temperature of the air; becauſe when the air is warm it is leſs denſe when ſupporting by its elaſticity the ſame weight of atmoſphere, and we muſt know how much its denſity is diminiſhed by an increaſe of temperature. The correction is ſtill more complicated; for the change of denſity affects the reſiſtance of the air, and this affects the time of the vibration, by a law that is not yet well aſcertained. As far as we can determine from any experiments yet made, the change ariſing from the altered reſiſtance takes off about two 5ths of the change produced by the altered denſity, and a ſecond pendulum makes but three vibrations a day more *in vacuo* than in the open air. This is a very unexpected reſult; but the experiments have neither been numerous nor very correctly made.

The air-pump alſo allows us to ſhow the effects of the preſſure of the air in a great number of amuſing and inſtructive phenomena. When the air is abſtracted from the receiver, it is ſtrongly preſſed

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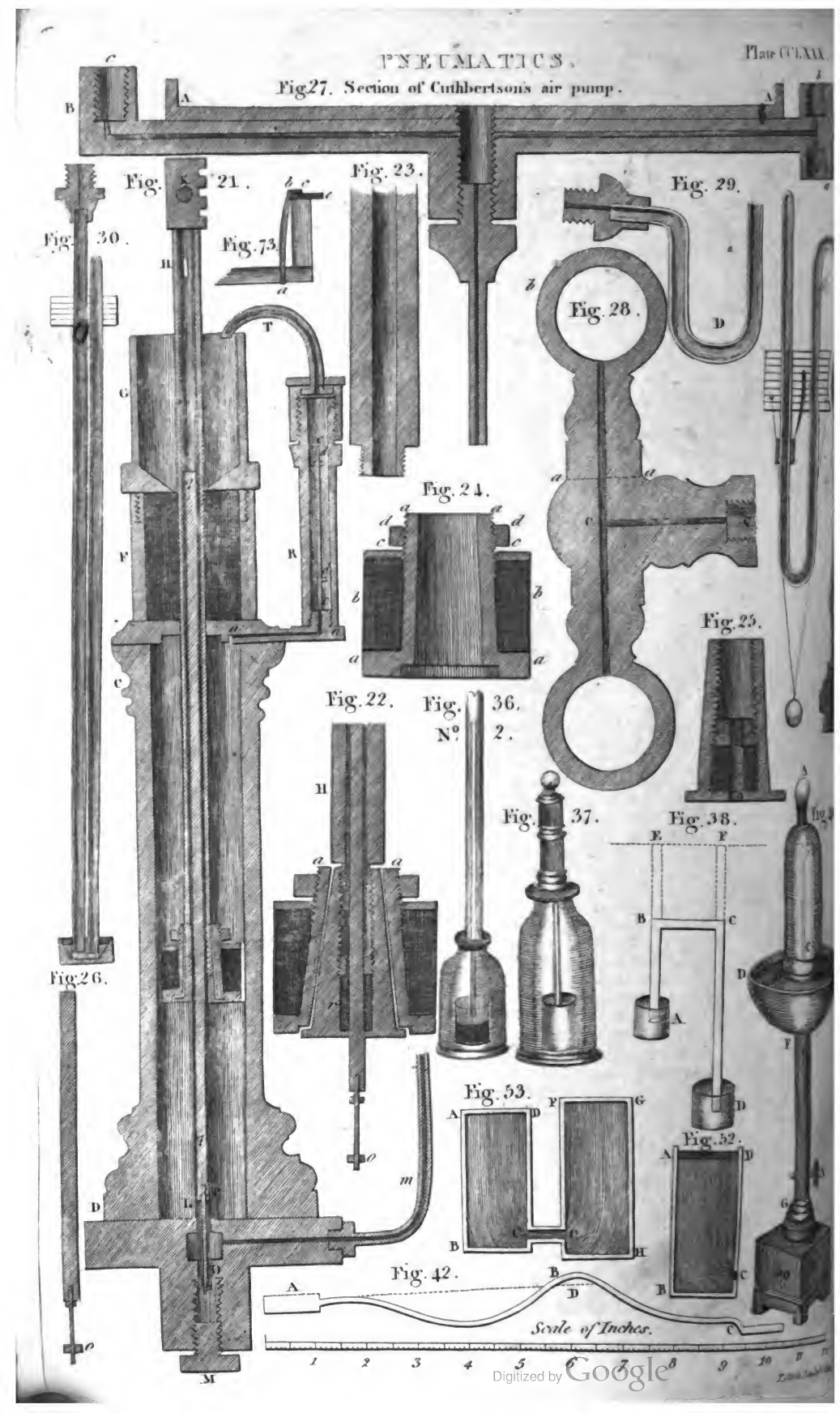
Fig27. Section of Cuthbertsons air pump.



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to the plump-plate by the incumbent atmosphere, and it supports this great pressure in consequence of its circular form. Being equally compressed on all sides, there is no place where it should give way sooner than another; but if it be thin, and not very round, which is sometimes the case, it will be crushed to pieces. If we take a square thin phial, and apply an exhausting syringe to its mouth, it will not fail being crushed.

As the operation of pumping is something like sucking, many of these phenomena are in common discourse ascribed to *suction*, a word much abused; and this abuse misleads the mind exceedingly in its contemplation of natural phenomena. Nothing is more usual than to speak of the suction of a syringe, the suction and draught of a chimney, &c. The following experiment puts the true cause of the strong adhesion of the receiver beyond a doubt.

Place a small receiver or cupping-glass on the pump-plate without covering the central hole, as in *fig.* 32, *Pl.* 278, and cover it with a larger receiver. Exhaust the air from it; then admit it as suddenly as possible. The outer receiver, which after the rarefaction adhered strongly to the plate, is now loose, and the cupping-glass will be found sticking fast to it. While the rarefaction was going on, the air in the small receiver also expanded, escaped from it, and was abstracted by the pump. When the external air was suddenly admitted, it pressed on the small receiver, and forced it down to the plate, and thus shut up all entry. The small receiver must now adhere; and there can be no suction, for the pipe of the pump was on the outside of the cupping-glass.

To make this experiment succeed, the cupping-glass should be pressed down by the hand on the greasy leather or plate, the glass will be so little raised by the expansion of its air during the pumping, that it will instantly clap close when the air is re-admitted. In like manner, if a thin square phial be furnished with a valve, opening from within, but shutting when pressed from without, and if this phial be put under a receiver, and the air be abstracted from the receiver, the air in the phial will expand during the rarefaction, will escape through the valve, and be at last in a very rarefied state within the phial. If the air be now admitted into the receiver, it will press on the flat sides of the included phial and crush it to pieces. See *fig.* 33, *Plate* 278.

If a piece of wet ox-bladder be laid over the top of a receiver whose orifice is about 4 inches wide, and the air be exhausted from within it, the incumbent atmosphere will press down the bladder into a hollow form, and then burst it inward with prodigious noise. See *fig.* 34. Or if a piece of thin flat glass be laid over the receiver, with an oiled leather between them to make the junction air-tight, the glass will be broken downwards. This must be done with caution, because the pieces of glass sometimes fly about with great force.

If there be formed two hemispherical cups of glass, with very flat thick brims, and one of them be fitted with a neck and stopcock, as represented by *fig.* 35. the air may be abstracted from them by screwing the neck into the hole in the pump-plate. To prevent the insinuation of air, a ring of oiled leather may be put between the rims. Now unscrew the sphere from the pump, and fix hooks to each, and suspend them from a strong nail, and hang a scale to the lowest. It will require a considerable weight to separate them; namely, about 15 lb. for every square inch of the great circle of the sphere. If this be four inches diameter, it will require near 190 lb. This pretty experiment was first made by Otto Guericke, and on a very great scale. His sphere was of a large size, and, when exhausted, the hemispheres could not be drawn asunder by 20 horses. It was exhibited, along with many others equally curious and magnificent, to the Emperor of Germany and his court, at the breaking up of the diet of Ratisbon in 1654.

If a loaded syringe be suspended by its piston from the hook in the top of the receiver, as in *fig.* 36, N° 1, *Plate* 279, and the air be abstracted by the pump, the syringe will gradually descend, and will at last drop off; as the elasticity of the air, which previously balanced the pressure of the atmosphere, is now diminished by its expansion, and is therefore no longer able to press the syringe to the piston. On admitting the air before this happens, the syringe will instantly rise again.

If a Torricellian tube be put under a tall receiver, as in *fig.* 36, N° 2, *Pl.* 280, and the air be exhausted, the mercury in the tube will descend while that in the gage will rise; and the sum of their heights will always be the same, that is, equal to the height in an ordinary barometer. The height of the mercury in the receiver is the effect and measure of the remaining elasticity of the included air, and the height in the pump-gage is the unbalanced pressure of the atmosphere. This is a very instructive experiment, perfectly similar to Mr AUZOUT's, mentioned above, and completely establishes and illustrates the whole doctrine of atmospheric pressure.

We get a similar illustration and confirmation of the cause of the rise of water in pumps, by screwing a syringe into the top plate of a receiver, which syringe has a short glass pipe plunging into a small cup of water. See *fig.* 37. When the piston-rod is drawn up, the water rises in the glass pipe, as in any other pump. But if the air has been previously exhausted from the receiver, there is nothing to press on the water in the little jar; and it will not rise in the glass pipe though the piston of the syringe be drawn to the top.

SECT. IV. *Of* SYPHONS.

The rise of water in pumps is analogous to its rise and motion in syphons. Suppose a pipe ABCD, fig. 38. bent at right angles at B and C, and having its two ends immersed in the cisterns of water A and D. Let the leg CD be longer than the leg BA, and let the whole be full of water. The water is pressed upwards at A with a force equal to the weight of the column of air EA reaching to the top of the atmosphere; but it is pressed downwards by the weight of the column of water BA. The water at F is pressed downwards by the weight of the column CD, and upwards by the weight of the column of air FD reaching to the top of the atmosphere. The two columns of air may without any sensible error be considered as equal. Therefore there is a superiority of pressure

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downwards at D, and the water will flow out there. The preſſure of the air will raiſe the water in the leg AB, and thus the ſtream will be kept up till the veſſel A is emptied as low as the orifice of the leg BA, provided the height of AB is not greater than the preſſure of the atmoſphere can balance, that is, does not exceed 32 or 33 feet for water, 30 inches for mercury, &c.

A ſyphon then will always run from that veſſel whoſe ſurface is higheſt; the form of the pipe is indifferent, becauſe the hydroſtatical preſſures depend on the vertical height only. It muſt be filled with water by ſome other contrivance, ſuch as a funnel, or a pump applied a-top; and the funnel muſt be ſtopped up, otherwiſe the air would get in, and the water would fall in both legs. If the ſyphon have equal legs, as in fig. 39. and be turned up at the ends, it will remain full of water, and be ready for uſe. It need only be dipped into any veſſel of water, and the water will then flow out at the other end of the ſyphon. This is called the *Wirtemberg ſyphon*, and is repreſented in *fig.* 39, *Plate* 279. See Sect. XII.

What is called the SYPHON FOUNTAIN, conſtructed on this principle, is ſhown in *fig.* 40, *Plate* 280, where AB is a tall receiver, ſtanding in a wide baſon DE, which is ſupported on the pedeſtal H by the hollow pillar FG. In the centre of the receiver is a jet pipe C, and in the top a ground ſtopper A. Near the baſe of the pillar is a cock N, and in the pedeſtal is another cock O.

Fill the baſon DE with water within half an inch of the brim. Then pour in water at the top of the receiver (the cock N being ſhut) till it is about half full, and then put in the ſtopper. A little water will run out into the veſſel DE. But before it runs over, open the cock N, and the water will run into the ciſtern H; and by the time that the pipe C appears above water, a jet will riſe from it, and continue as long as water is ſupplied from the baſon DE. The paſſage into the baſe ciſtern may be ſo tempered by the cock N that the water within the receiver ſhall keep at the ſame height, and what runs into the baſe may be received from the cock O into another veſſel, and returned into DE, to keep up the ſtream.

This philoſophical amuſement may be conſtructed in the following manner. BB, *fig.* 41, *Pl.* 281, is the ferril or cap into which the receiver is cemented. From its centre deſcends the jet pipe C *a*, ſloping outwards to give room for the diſcharging pipe *b d* of larger diameter, whoſe lower extremity *d* fits tightly into the top of the hollow pillar FG. The operation is eaſily underſtood. Suppoſe the diſtance from C to H *fig.* 40, *Pl.* 280, 3 feet, which is about one 11th of the height at which the atmoſphere would ſupport a column of water. The water poured into AB would deſcend through FG (the hole A being ſhut) till the air has expanded one 10th, and then it would ſtop. If the pipe C*a* be now opened, the preſſure of the air on the ſurface of the water in the ciſtern DE will cauſe it to ſpout through C to the height of three feet nearly, and the water will continue to deſcend through the pipe FG. By tempering the cock N ſo as to allow the water to paſs through it as faſt as it is ſupplied by the jet, the amuſement may be continued a long time. It will ſtop at laſt, however; for, as the jet is made into rarefied air, a little air will be extricated from the water, which will gradually accumulate in the receiver, and diminiſh its rarefaction, which is the moving cauſe of the jet. This indeed is an inconvenience felt in every employment of ſyphons, ſo much the more remarkably as their top is higher than the ſurface of the water in the ciſtern of ſupply.

Caſes of this employment of a ſyphon are not unfrequent. When water collected at A (*fig.* 42.) is to be conducted in a pipe to C, ſituated in a lower part of the country, it ſometimes happens, as between Lochend and Leith, that the intervening ground is higher than the fountain-head at B. A forcing pump is erected at A, and the water forced along the pipe. Once it runs out at C, the pump may be removed, and the water will continue to run on the ſyphon principle, provided BL do not exceed 33 feet. But the water in that part of the conduit which is above the horizontal plane AD, is in the ſame ſtate as in a receiver of rarefied air, and gives out ſome of the air which is chemically united with it. This gradually accumulates in the elevated part of the conduit, and at laſt choaks it entirely. When this happens, the forcing pump muſt again be worked. Although the elevation in the Leith conduit is only about 8 or 10 feet, it will ſeldom run for 12 hours. This air cannot be diſcharged by the ſtop-cocks; for if there were an opening at B, the air would ruſh in, and immediately ſtop the motion.

This combination of air with water is very diſtinctly ſeen by the air-pump. If a ſmall glaſs containing cold water, freſh from the ſpring, be expoſed, as in fig. 43, *Pl.* 279, under the receiver, and the air rarefied, ſmall bubbles will be obſerved to form on the inner ſurface of the glaſs, or on the ſurface of any body immerſed in it, which will increaſe in ſize, and then detach themſelves from the glaſs and reach the top; as the rarefaction advances, the whole water begins to ſhow very minute air-bubbles riſing to the top; and this appearance will continue for a very long time, till it be completely diſengaged.

Water purged of air by boiling (or even without boiling) *in vacuo*, will again abſorb air when expoſed to the atmoſphere. The beſt demonſtration of this is to fill with this water a phial, leaving about the ſize of a pea not filled. Immerſe this in a veſſel of water, with the mouth undermoſt, by which means the air-bubble will mount up to the bottom of the phial. After ſome days ſtanding in this condition, the air-bubble will be completely abſorbed, and the veſſel quite filled with water.

The air in this ſtate of chemical ſolution has loſt its elaſticity, for the air is not more compreſſible than common water. It is alſo found that water brought up from a great depth under ground contains much more air than water at the ſurface. Indeed fountain waters differ exceedingly in this reſpect. The water which comes into the city of Edinburgh by pipes contains ſo much as to throw it into a conſiderable ebullition in vacuo. Other liquors contain much greater quantities of elaſtic fluid in this looſely combined ſtate. A glaſs of beer treated in the ſame way will be almoſt wholly converted into froth by the eſcape

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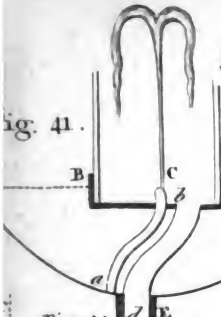


Fig. 41.

Fig. 54.

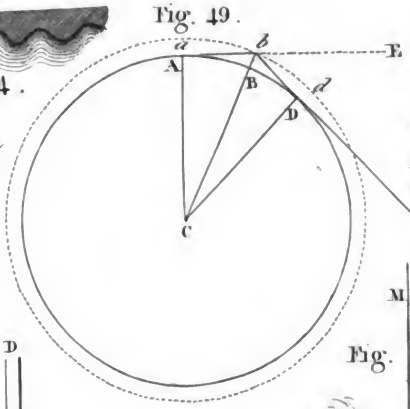
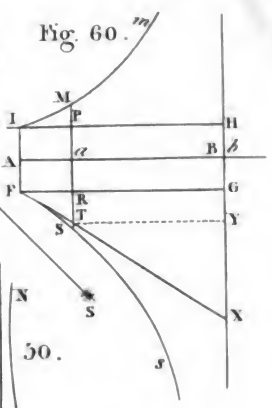


Fig. 49.



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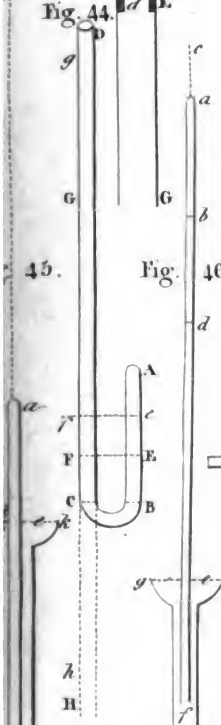

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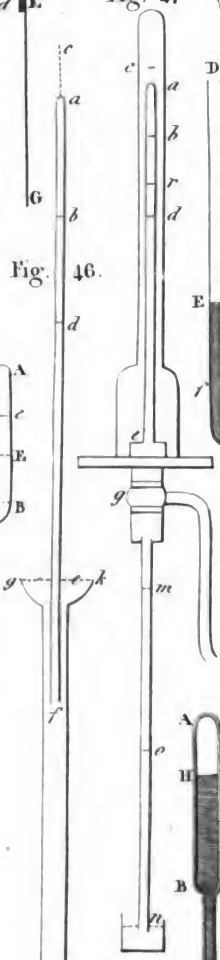

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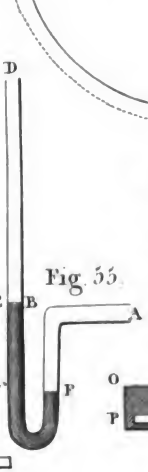
Fig. 47.



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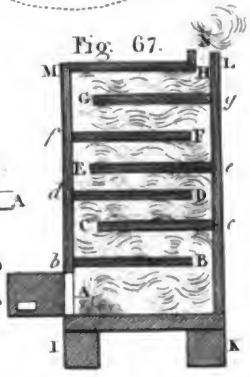


Fig. 67.

Fig. 64.

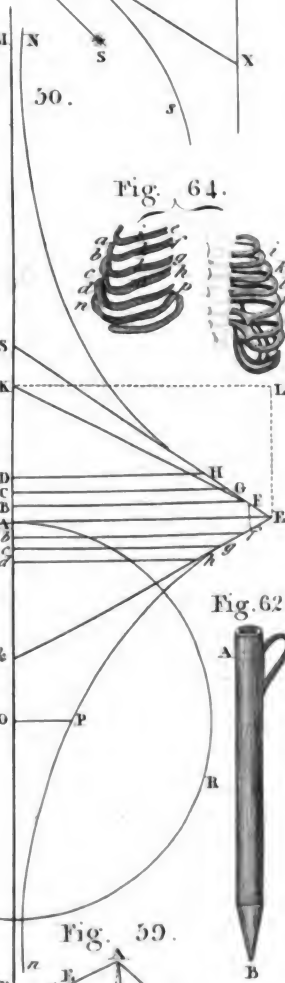


Fig. 50.

Fig. 51.

Fig. 62.

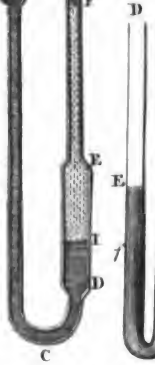
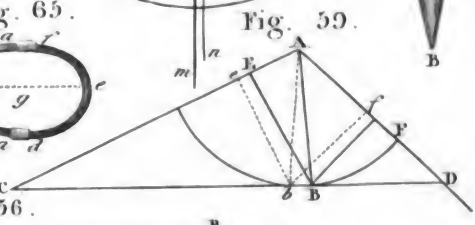


Fig. 65.

Fig. 59.



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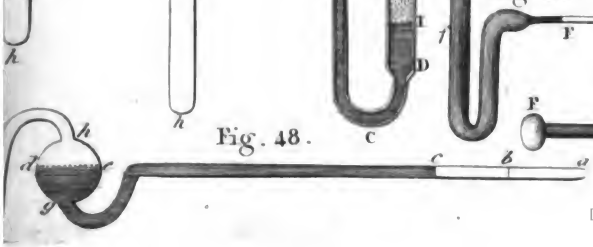

Fig. 48.

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T. Clerk Sculp. Edin.

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of its fixed air, and will have loſt entirely the prickling ſmartneſs which is ſo agreeable, and it become quite vapid.

SECT. V. *Of the* ELASTICITY, DENSITY, *and* COMPRESSIBILITY *of the* AIR.

THE air-pump affords a great variety of experiments illuſtrative of the air's elaſticity and expanſibility. The very operation of exhauſtion is an inſtance of its great, and hitherto unlimited expanſibility. The following experiments ſhow it clearly:

1ſt, Put a flaccid bladder, of which the neck is firmly tied with a thread, under a receiver, and work the pump. The bladder will gradually ſwell, and will even be fully diſtended. Upon readmitting the air into the receiver, the bladder gradually collapſes again into its former dimenſions: while the bladder is flaccid, the air within it is of the ſame denſity and elaſticity with the ſurrounding air, and its elaſticity balances the preſſure of the atmoſphere. When part of the air of the receiver is abſtracted, the remainder expands ſo as ſtill to fill the receiver: but by expanding, its elaſticity is plainly diminiſhed; for we ſee by the fact, that the elaſticity of the air of the receiver no longer balances the elaſticity of that in the bladder, as it no longer keeps it in its dimenſions. The air in the bladder expands alſo: it expands till its diminiſhed elaſticity is again in equilibrio with the diminiſhed elaſticity of the air in the receiver; that is, till its denſity is the ſame. When all the wrinkles of the bladder have diſappeared, its air can expand no more, although we continue to diminiſh the elaſticity of the air of the receiver by further rarefaction. The bladder now tends to burſt; and if it be pierced by a point or knife faſtened to the ſlip-wire, the air will ruſh out, and the mercury deſcend rapidly in the gage.

Every one muſt have obſerved a cavity at the big end of an egg between the ſhell and the white. The white and yolk are contained in a thin membrane or bladder which adheres looſely to the ſhell, but is detached from it at that part; and this cavity increaſes by keeping the egg in a dry place. One may form a judgment of its ſize, and therefore of the freſhneſs of the egg, by touching it with the tongue; for the ſhell, where it is not in contact with the contents, will preſently feel warm, being quickly heated by the tongue, while the reſt of the egg will feel cold. If a hole be made in the oppoſite end of the egg, and if it be ſet on a little tripod, and put under a receiver, the expanſion of the air in the cavity of the egg will force the contents through the hole till the egg be quite emptied: or, if nearly one half of the egg be taken away at the other end, the white and yolk taken out, the ſhell put under a receiver, and the air abſtracted, the air in the cavity of the egg will expand, gradually detaching the membrane from the ſhell, till it cauſes it to ſwell out, and gives the whole the appearance of an entire egg.—In like manner ſhrivelled apples and other fruits will ſwell in vacuo by the expanſion of the air confined in their cavities.

The AIR-BLADDER of a fiſh is ſurrounded by circular and longitudinal muſcles, by which the fiſh can compreſs the air ſtill further; and, by ceaſing to act with them, allow it to ſwell out again. It is in this manner that the fiſh can ſuit its ſpecific gravity to its ſituation in the water, ſo as to have no tendency either to riſe or ſink: but if the fiſh be put into the receiver of the air-pump, the rarefaction of the air obliges the fiſh to act more ſtrongly with theſe contracting muſcles, in order to adjuſt its ſpecific gravity; and if too much air has been abſtracted from the receiver, the fiſh is no longer able to keep its air-bladder in the proper degree of compreſſion. It becomes therefore too buoyant, and comes to the top of the water, and is obliged to ſtruggle with its tail and fins to get down; often in vain. The air-bladder ſometimes burſts, and the fiſh goes to the bottom, as it can no longer keep above without the continual action of its tail and fins.

The play-things called *Carteſian devils* are ſimilar to this: they are hollow glaſs figures, having a ſmall aperture in the lower part of the figures, as at the point of the foot; their weight is adjuſted ſo that they ſwim upright in water. When put into a tall jar filled to the top, and having a piece of leather tied over it, they will ſink in the water, by preſſing on the leather with the ball of the hand: this, by compreſſing the water, forces ſome of it to enter into the figure and makes it heavier than the water, for which reaſon it ſinks, but riſes again on removing the preſſure of the hand.

If a half-blown ox bladder be put into a box, and great weights laid on it, and the whole put under a receiver, and the air abſtracted; the air will, by expanding, lift up the weights, though above 100 lb. By ſuch experiments the great expanſibility was by the condenſing ſyringe. The two ſets of experiments form an uninterrupted chain; and that there is no particular ſtate of the air's denſity where the compreſſibility and expanſibility is remarkably diſſimilar. Air in its ordinary ſtate expands; becauſe its ordinary ſtate is a ſtate of compreſſion by the weight of the atmoſphere. It has been ſuppoſed that if there were a pit 33 miles deep, the air at the bottom will be as denſe as water; if it were 50 miles deep, it would be as denſe as gold, if it did not become a liquid before this depth; nay, that if a bottle with its mouth undermoſt were immerſed ſix miles under water, it would be as denſe as water. But the truth of theſe ſuppoſitions depends on the nature of its compreſſibility.

This is the circumſtance of its conſtitution, which is evidently of the utmoſt importance. The great COMPRESSIBILITY and permanent FLUIDITY of air, obſerved in a vaſt variety of phenomena, is totally inexplicable, on the ſuppoſition that the particles of air are like ſo many balls of ſponge or ſo many foot-balls. Give to theſe what compreſſibility you pleaſe, common air could no more be fluid than a maſs of clay; it could no more be fluid than a maſs of ſuch balls preſſed into a box. It can be demonſtrated that before a parcel of ſuch balls, juſt touching each other, can be ſqueezed into half their preſent dimenſions, their globular ſhape will be entirely gone, and each will have become a perfect cube, touching ſix other cubes with its whole ſurface; and theſe cubes will be ſtrongly compreſſed together, ſo that motion could never be performed through among them by any

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any ſolid body without a very great force: Whereas we know that air in its moſt compreſſed ſtate is juſt as permeable to any body as the common air that we breathe. There is no way in which we can repreſent this fluidity to our imagination but by conceiving air to conſiſt of particles, not only diſcrete, but diſtant from each other, and actuated by repulſive forces, or ſomething analogous to them. It is an idle ſubterfuge, to which ſome naturaliſts have recourſe, ſaying, that they are kept aſunder by an intervening ether. (See Optics, § 153, 154.) We muſt, according to the rules of juſt reaſoning, begin the inquiry here; determine from the phenomena what is the analogy between the diſtances of the particles and the repulſive forces exerted at theſe diſtances, proceeding in the ſame way as in the examination of planetary gravitation. We ſhall learn the analogy by attending to the analogy between the compreſſing force and the denſity. The denſity depends on the diſtance between the particles; the nearer they are to each other, the denſer is the air. Suppoſe a ſquare pipe one inch wide and 8 long, ſhut at one end, and filled with common air; then ſuppoſe a plug ſo nicely fitted to this pipe that no air can paſs by its ſides; ſuppoſe this piſton thruſt down to within an inch of the bottom: it is evident that the air which formerly filled the whole pipe now occupies the ſpace of one cubic inch, which contains the ſame number of particles as were formerly diffuſed over 8 cubic inches.

The condenſation would have been the ſame, if the air which fills a cube whoſe ſide is two inches had been ſqueezed into a cube of one inch, for the cube of two inches alſo contains 8 inches. In this caſe it is evident, that the diſtance between the particles would be reduced to its half in every direction. If a cube whoſe ſide is 3 inches, and which therefore contains 27 inches, be ſqueezed into one inch, the diſtance of the particles will be one 3d of what it was: in general the diſtance of the particles will be as the cube-root of the ſpace into which they are compreſſed. If the ſpace be $\frac{1}{8}$, $\frac{1}{27}$, $\frac{1}{64}$, $\frac{1}{125}$, &c. of its former dimenſions, the diſtance of the particles will be $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, &c. Now the term *denſity*, in its ſtrict ſenſe, expreſſes the vicinity of the particles. The meaſure of this vicinity therefore is the true meaſure of the denſity; and when 27 inches of air are compreſſed into one, we ſhould ſay that it is three times as denſe; but we ſay, that it is 27 times denſer.

Density is therefore uſed in a ſenſe different from its common acceptation: it expreſſes the comparative number of equidiſtant particles contained in the ſame bulk. This is alſo ſufficiently preciſe, when we compare bodies of the ſame kind differing in denſity only; but we alſo ſay, that gold is 19 times denſer than water, becauſe the ſame bulk of it is 19 times heavier. This aſſertion proceeds on the aſſumption, that every ultimate atom of terreſtrial matter is equally heavy. In ſuch a caſe, the term denſity has little or no reference to the vicinity of the particles; and is only a term of compariſon of other qualities. But when we ſpeak of the reſpective denſities of the ſame ſubſtance in its different ſtates of compreſſion, the word *denſity* is ſtrictly connected with vicinity of particles, and we may ſafely take either of the meaſures. We ſhall abide by the common acceptation, and call that air 8 times as denſe which has 8 times as many particles in the ſame bulk, although the particles are only twice as near to each other.

Thus by obſerving the analogy between the compreſſing force and the denſity, we ſhall diſcover the analogy between the compreſſing force and the diſtance of the particles. The force which is neceſſary for compreſſing two particles of air to a certain vicinity is a proper meaſure of the elaſticity of the particles correſponding to that vicinity or diſtance; for it balances it, and forces which balance muſt be eſteemed equal. Elasticity is a diſtinctive name for that corpuſcular force which keeps the particles at that diſtance: therefore obſervations made on the analogy between the compreſſing force and the denſity of air will give us the law of its corpuſcular force, as obſervations on the ſimultaneous deflections of the planets towards the ſun give us the law of celeſtial gravitation.

But the ſenſible compreſſing forces which we are able to apply is at once exerted on unknown thouſands of particles, while it is the law of action of a ſingle particle that we want to diſcover. We muſt therefore know the *proportion* of the numbers of particles on which the compreſſing force is exerted. As the diſtance of the particles is as the cube root of the denſity inverſely, the number of particles in phyſical contact with the compreſſing ſurface muſt be as the ſquare of this root. Thus when a cube of 8 inches is compreſſed into one inch, and the particles are twice as near each other as they were before, there muſt be 4 times the number of particles in contact with each of the ſides of this cubical inch; or, when we have puſhed down the ſquare piſton of the pipe ſpoken of above to within an inch of the bottom, there will be 4 times the number of particles *immediately* contiguous to the piſton, and reſiſting the compreſſion; and to obtain the force really exerted on one particle, and the elaſticity of that particle, we muſt divide the whole compreſſing force by 4. In like manner, if we have compreſſed air into $\frac{1}{27}$ of its former bulk, and brought the particles to $\frac{1}{3}$ of their former diſtance, we muſt divide the compreſſing force by 9. In general if d expreſs the denſity, $\frac{1}{\sqrt[3]{d}}$ will expreſs the diſtance x of the particles; $\sqrt[3]{d}$, or $d^{\frac{1}{3}}$, will expreſs the vicinity or real denſity; and $d^{\frac{2}{3}}$, will expreſs the number of particles acting on the compreſſing ſurface: and if f expreſs the accumulated external compreſſing force, $\frac{f}{d^{\frac{2}{3}}}$ will expreſs the force acting on one particle; and therefore the elaſticity of that particle correſponding to the diſtance x.

The firſt experiments made to eſtabliſh the law of compreſſion were publiſhed by Mr Boyle, in 1661, in his *Defenſio Doctrinæ de Aeris Elaſtere contra Linum*, and exhibited before the Royal Society the year before. Mariotte made experiments of the ſame kind, publiſhed in his *Eſſai ſur la*

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la Nature de l' Air, and *Traité des Mouvemens des Eaux*. The moſt copious experiments are thoſe by SULZER, (*Mem. Berlin.* ix.) by FONTANA, (*Opuſc. Phyſico-Math.*) and by Sir GEORGE SHUCKBOURGH and Gen. ROY.

To examine the compreſſibility of the air that is not rarer than the atmoſphere at the ſurface of the earth, we employ a bent tube or ſyphon ABCD, *pl.* 281. *fig.* 44., hermetically ſealed at A and open at D. The ſhort leg AB muſt be very accurately divided in the proportion of its ſolid contents, and fitted with a ſcale whoſe units denote equal increments, not of length, but of capacity. There are various ways of doing this; but it requires the moſt ſcrupulous attention, and without this the experiments are of no value. In particular the arched form at A muſt be noticed. A ſmall quantity of mercury muſt then be poured into the tube, and paſſed backwards and forwards till it ſtands (the tube being held in a vertical poſition) on a level at B and C. Then we are certain, that the included air is of the ſame denſity with that of the contiguous atmoſphere. Mercury is now poured into the leg DC, which will fill it, ſuppoſe to G, and will compreſs the air into a ſmaller ſpace AE. Draw the horizontal line EF: the new bulk of the compreſſed air is evidently AE, meaſured by the adjacent ſcale, and the addition made to the compreſſing force of the atmoſphere is the weight of the column GF. Produce GF downwards to H, till FH is equal to the height ſhown by a Torricellian tube filled with the *ſame mercury*; then the whole compreſſing force is HG This is evidently the meaſure of the elaſticity of the compreſſed air in AE, for it balances it. Now pour in more mercury, and let it riſe to *g*, compreſſing the air into A*e*. Draw the horizontal line *ef*, and and make *fh* equal to FH; then A*e* will be the new bulk of the compreſſed air, $\frac{AB}{Ae}$ will be its new denſity, and *hg* will be the meaſure of the new elaſticity. This operation may be extended as far as we pleaſe, by lengthening the tube CD, and taking care that it be ſtrong enough to reſiſt the great preſſure. Great care muſt be taken to keep the whole in a conſtant temperature, becauſe the elaſticity of air is greatly affected by heat, and the change by any increaſe of temperature is different according to its denſity or compreſſion.

The experiments of Boyle, Mariotte, Amontons, and others, were not extended to very great compreſſions, the denſity of the air not having been quadrupled in any of them; nor do they ſeem to have been made with very great nicety. It may be collected from them in general, that the elaſticity of the air is very nearly proportioned to its denſity; and accordingly this law was almoſt immediately acquieſced in, and was called the *Boylean law*: it is accordingly aſſumed by almoſt all writers on the ſubject as exact. Of late years, however, there occurred queſtions in which it was of importance that this point ſhould be more ſcrupulouſly ſettled, and the former experiments were repeated and extended. Sulzer and Fontana have carried them farther than any other. Sulzer compreſſed air into $\frac{1}{8}$ of its former dimenſions.

In theſe experiments, it is extremely difficult to preſerve the temperature of the apparatus, particularly of the leg AB, which is moſt handled. A great quantity of mercury muſt be employed; and it does not appear that philoſophers have been careful to have it preciſely ſimilar to that in the barometer, which gives the unit of compreſſing force and of elaſticity. The mercury in the barometer ſhould be pure and boiled. If the mercury in the ſyphon is adulterated with biſmuth and tin, which it commonly is to a conſiderable degree, the compreſſing force, and conſequently the elaſticity, will appear greater than the truth. If the barometer has not been nicely fitted, it will be lower than it ſhould be, and the compreſſing force will appear too great, becauſe the unit is too ſmall; and this error will be moſt remarkable in the ſmaller compreſſions.

The greateſt ſource of error and irregularity in the experiments is the very heterogeneous nature of the air itſelf. Air is a ſolvent of all fluids, all vapours, and perhaps of many ſolid bodies. It is highly improbable that the different compounds ſhall have the ſame elaſticity, or even the ſame law of elaſticity: and it is well known, that air, loaded with water or other volatile bodies, is much more expanſible by heat than pure air; nay, it would appear from many experiments, that certain determinate changes both of denſity and of temperature, cauſe air to let go the vapours which it holds in ſolution. Cold cauſes it to precipitate water, as appears in dew; ſo does rarefaction, as is ſeen in the receiver of an air-pump. In general, the elaſticity of air does not increaſe quite ſo faſt as its denſity. This will be beſt ſeen by the following tables, calculated from the experiments of Mr SULZER. The column E, in each ſet of experiments, expreſſes the length of the column GH, the unit being FH, while the column D expreſſes $\frac{AB}{AE}$.

1ſt Set.		2d Set.		3d Set.	
D	E	D	E	D	E
1,000	1,000	1,000	1,000	1,000	1,000
1,100	1,093	1,236	1,224	1,091	1,076
1,222	1,211	1,294	1,288	1,200	1,183
1,375	1,284	1,375	1,332	1,333	1,303
1,571	1,559	1,466	1,417	1,500	1,472
1,692	1,669	1,571	1,515	1,714	1,659
1,833	1,796	1,692	1,647		
2,000	1,958	2,000	1,964	2,000	1,900
2,288	2,130				
2,444	2,375	2,444	2,392	2,400	2,241
3,143	2,936	3,143	3,078	3,000	2,793
3,666	3,391	3,666	3,775		
4,000	3,706			4,000	3,631
4,444	4,035	4,444	4,320		
4,888	4,438				
5,500	4,922	5,500	5,096		
5,882	5,552			6,000	5,297
		7,333	6,694		
				8,000	6,835

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There appears in these experiments sufficient grounds for calling in question the Boylean law. Prof. Robison repeated them with some precautions, which probably had not been attended to by Mr Sulzer. He was particularly anxious to have the air as free as possible from moisture. For this purpose, having detached the short leg of the syphon, which was 34 inches long, he boiled mercury in it, and filled it with mercury boiling hot. He took a tin-plate vessel of sufficient capacity, and put into it a quantity of powdered quicklime just taken from the kiln; and having closed the mouth, he agitated the lime through the air in the vessel, and allowed it to remain there all night. He then emptied the mercury out of the syphon into the vessel, keeping the open end far within it. The short leg of the syphon was thus filled with very dry air. The other part was now joined, and boiled mercury put into the bend of the syphon; and the experiment was then prosecuted with mercury which had been recently boiled, and was the same with which the barometer had been carefully filled. The results of the experiments are expressed in the following table:

Dry Air.		Moist Air.		Camp. Air.	
D	E	D	E	D	E
1,000	1,000	1,000	1,000	1,000	1,000
2,000	1,957	2,000	1,920	2,000	1,909
3,000	2,848	3,000	2,839	3,000	2,845
4,000	3,737	4,000	3,726	4,000	3,718
5,500	4,930	5,500	5,000	5,500	5,104
6,000	5,342	6,000	5,452	6,000	5,463
7,620	6,490	7,620	6,775	7,620	6,812

Here it appears again in the clearest manner that the elasticities do not increase as fast as the densities, and the differences are even greater than in Mr Sulzer's experiments.

The 2d table contains the results of experiments made on very damp air in a warm summer's morning. In these it appears that the elasticities are almost precisely proportional to the densities, a small constant quantity, nearly 0·11 deviating from this rule chiefly between the densities 1 and 1·5, within which limits we have very nearly $D = E^{1.1007}$. As this air is nearer to the constitution of atmospheric air than the former, this rule may be safely followed in cases where atmospheric air is concerned, as in measuring the depths of pits by the barometer.

The 3d table shows the compressions and elasticity of air strongly impregnated with the vapours of camphire. Here the Boylean law appears pretty exact, or rather the elasticity seems to increase a little faster than the density. Dr Hooke examined the compression of air by immersing a bottle to great depths in the sea, and weighing the water which got into it without any escape of air. But this method was liable to great uncertainty, on account of the unknown temperature of the sea at great depths.

Hitherto we have considered only such air as is not rarer than what we breathe; we must take a very different method for examining the elasticity of rarefied air. Let $g\,b$ (*fig.* 45.) be a long tube, formed a top into a cup, and of sufficient diameter to receive another smaller tube $a\,f$, open at first at both ends. Let the outer tube and cup be filled with mercury, which will rise in the inner tube to the same level. Let $a\,f$ now be stopped at a. It contains air of the same density and elasticity with the adjoining atmosphere. Note exactly the space $a\,b$ which it occupies. Draw it up into the position of *fig.* 46. and let the mercury stand in it at the height $d\,e$, while $c\,e$ is the height of the mercury in the barometer. It is evident that the column $d\,e$ is in equilibrio between the pressure of the atmosphere and the elasticity of the air included in the space $a\,d$. And since the weight of $c\,e$ would be in equilibrio with the whole pressure of the atmosphere, the weight of $c\,d$ is equivalent to the elasticity of the included air. While therefore $c\,e$ is the measure of the elasticity of the surrounding atmosphere, $c\,d$ will be the measure of the elasticity of the included air; and since the air originally occupied the space $a\,b$, and has now expanded into $a\,d$, we have $\frac{a\,b}{a\,d}$ for the measure of its density. N. B. $c\,e$ and $c\,d$ are measured by the *perpendicular heights of* the columns, but $a\,b$ and $a\,d$ must be measured by their *solid capacities*. By raising the inner tube still higher, the mercury will also rise higher, and the included air will expand still farther, and we obtain another $c\,d$ and another $\frac{a\,b}{a\,d}$; and in this manner the relation between the density and elasticity of rarefied air may be discovered.

This examination may be managed more easily by the air-pump. Suppose a tube $a\,e$ (*fig.* 47.) containing a small quantity of air $a\,b$, set up in a cistern of mercury, which is supported in the tube at the height $e\,o$, and let $e\,c$ be the height of the mercury in the barometer. Let this apparatus be set under a tubulated receiver on the pump-plate, and let $g\,n$ be the pump-gage, and $m\,n$ be made equal to $c\,e$.

Then $c\,b$ is the measure of the elasticity of the air in $a\,b$, corresponding to the bulk $a\,b$. Now let some air be abstracted from the receiver. The elasticity of the remainder will be diminished by its expansion; and therefore the mercury in the tube $a\,e$ will descend to some point d. For the same reason the mercury in the gage will rise to some point o, and $m\,o$ will express the elasticity of the air in the receiver. This would support the mercury in the tube $a\,e$ at the height $e\,r$, if the space $a\,r$ were entirely void of air. Therefore $r\,d$ is the effect and measure of the elasticity of the included air when it has expanded to the bulk $a\,d$; and thus its elasticity, under a variety of other bulks, may be compared with its elasticity when of the bulk $a\,b$. When the air has been so far abstracted from the receiver that the mercury in $a\,e$ descends to e, then $m\,o$ will be the precise measure of its elasticity. In all these cases it is necessary to compare its bulk $a\,b$ with its natural bulk, in which its elasticity balances the pressure of the atmosphere. This may be done by laying the tube $a\,e$ horizontally, and then the air will collapse into its ordinary bulk.

Concluded in Vol. Eighteenth.

END OF THE SEVENTEENTH VOLUME.

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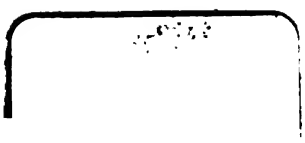
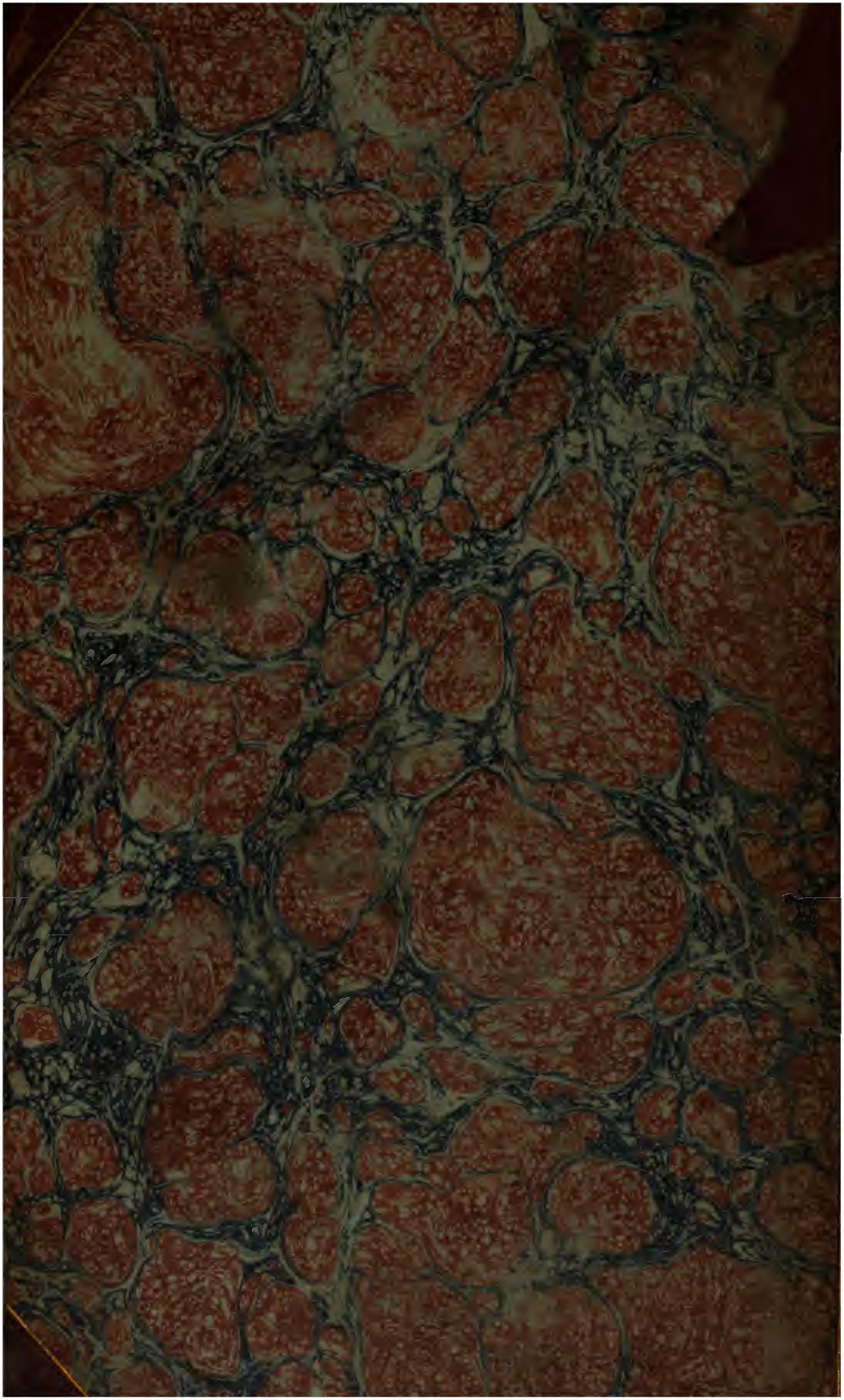
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